MARCH
1961

THE JOURNAL OF Higher Education

Portrait of a College President

The Role of the Professor in College-Day Programs

The Ohio State University Press

THE JOURNAL OF Higher Education

A Forum for Faculty Discussion

ROBERT D. PATTON, *Editor*
EDITH C. RINEHART, *Associate Editor*

EDITORIAL ADVISORY BOARD

RICHARD D. ALTICK — AURELE LA ROCQUE
DONALD P. COTTRELL — CHAUNCEY D. LEAKE
ROSCOE H. ECKELBERRY — EVERETT WALTERS — ROBERT E. MATHEWS

EDITORIAL CONSULTANTS

JOHN S. DIEKHOFF, FRANK P. GRAHAM, MSGR. F. C. HOCHWALT
E. V. HOLLIS, HENRY W. HOLMES, CHARLES W. HUNT, A. C. KREY
L. C. MARSHALL, J. L. MORRILL, WILLARD C. RAPPLEYE, FLOYD W. REEVES
JOHN SHAPLEY, ORDWAY TEAD, LUTHER WEIGLE, JESSE FEIRING WILLIAMS
C. C. WILLIAMSON, JAMES M. WOOD

THE JOURNAL OF HIGHER EDUCATION is published monthly, except during July, August, and September, by the Ohio State University Press, Columbus 10, Ohio; 75 cents a copy, $6.00 a year (Canadian and foreign subscriptions, $6.50). Special rate for registered graduate students, $5.00 a year. Second-class mailing privilege authorized at Columbus, Ohio.
Copyright © 1961 by the Ohio State University Press.
NOTE TO CONTRIBUTORS: Manuscripts submitted for publication should be original typescripts, double-spaced, on white opaque paper, 8½ x 11.

JHE

SPECIAL OFFER

The Ohio State University Press is happy to announce that for a limited time it is able to offer discerning readers a subscription to the JOURNAL OF HIGHER EDUCATION for one year (regular rate: $6.00), together with a copy of its recent publication *American Higher Education in the 1960's* ("Kappa Delta Pi Lecture Series," No. 32), by Robert J. Havighurst (list price: $2.50), at a combined rate of $7.50.

Orders should be marked "special offer."

OHIO STATE UNIVERSITY PRESS
164 WEST NINETEENTH AVENUE
COLUMBUS 10, OHIO

Reprints
of
JOURNAL Articles

Reprints of JOURNAL articles may be ordered at the following prices:

	5	10	25	50	100	Additional 100's
1– 4 pages.....	1.00	2.00	5.00	8.00	13.50	4.50
5– 8 pages.....	1.50	3.00	7.50	12.00	17.25	5.00
9–12 pages.....	1.75	3.50	8.50	15.00	24.00	6.00
13–16 pages.....	2.00	4.00	9.50	18.00	29.00	7.25

Single copies of any length, $.50

These prices are good only for orders placed within sixty days of the date of publication.

JOURNAL OF HIGHER EDUCATION
164 West 19th Avenue,
Columbus 10, Ohio

THE JOURNAL OF

Higher Education

Volume XXXII, Number 3 March, 1961

CONTENTS

Portrait of a College President — *W. Silas Vance* 121

Science and Technology in European Universities — *James A. McCain* 131

The Role of the Professor in College-Day Programs — *T. Harry McKinney* 137

The Effects of Acceleration on Social and Academic Achievement — *Gloria Ortner Chapman* 143

SHORT CONTRIBUTIONS

An Academic Venture in the Humanities: Self-selected Honor Students — *S. Harvey Clarke* 149

A Deliberate Radicalness — *William Bruce Cameron* 152

Some Features of Auto-instructional Devices — *Robert E. Silverman* 156

ACADEMIC ROUND TABLE

Is Consolidation among Textbook Publishers a Threat to Authors? 160

EDITORIAL 165

THE REPORTER 171

REVIEWS	REVIEWER	
Education in the Perspective of History	*Crane Brinton*	173
Science and Liberal Education	*Paul Kirkpatrick*	173
The Nature of Being Human	*Kenneth S. Wagoner*	174
T. H. Huxley: Scientist, Humanist, and Educator	*James D. Teller*	176
If the Gown Fits	*Brian Holmes*	177

WHO is at work on a satellite system for global telephone and TV transmission?

WHO provides the communications channels for America's missile defenses?

WHO is girdling the globe with communications for America's first man into space?

WHO tapped the sun for electric power by inventing the Solar Battery?

WHO used the moon for two-way conversations across the country?

who?

WHO guided Tiros and Echo into accurate orbit?

WHO made your pocket radio possible by inventing the Transistor?

WHO maintains the world's largest, finest industrial research facilities?

WHO supplies the most and the best telephone service in the world?

WHO has the UNIVERSAL communications organization?

THERE'S ONLY ONE ANSWER TO ALL TEN QUESTIONS

BELL TELEPHONE SYSTEM

Pioneering in outer space to improve communications on earth

JOURNAL OF HIGHER EDUCATION Vol. XXXII No. 3 March, 1961

Portrait of a College President

S. P. Brooks of Baylor University

By W. Silas Vance

MUCH concern has been shown in recent years about the quality of higher education in America. Colleges, it is said, have sacrificed education for educational administration, integrity for popularity and expansion. They have lost their "intellectual dignity and seriousness of purpose."[1] One thoughtful writer declares the average college to be "psychologically sick," lacking in "sincerity and integrity," taken over by "authoritarianism, anti-intellectualism, formalism and irrelevance."[2]

Many are disturbed by the growing tendency to put at the head of colleges, not scholars or experienced educators, but career administrators or imposing figures from the non-academic world—often men with no experience in higher education and sometimes men with no experience in education of any kind. They are likely to be, first of all, public-relations experts, given, it seems, to employing more public-relations experts, unscholarly and even anti-intellectual in outlook, men who seek to reflect rather than mold public opinion.[3]

College teachers, far from comprising a community of self-reliant scholars, are said to be anxious, uncertain, submissive, often resigned to time-serving. With little professional incentive for scholarship, many teachers in exacting subject-matter fields (science, history, literature), qualifying themselves the easiest way for position and rank, are setting

[1]Paul C. Wermuth, "An Outrageous Proposal," *Liberal Education*, XLV (December, 1959), p. 515.

[2]Lloyd P. Williams, "Quiescence, Tradition, and Disorder—Cross-Section of a Small College," *AAUP Bulletin*, XLIII (Winter, 1957), pp. 624–25.

[3]See Dixon Wecter, "Prowling for Campus Presidents," *Saturday Review*, XXXI (September 11, 1948), pp. 9–11; Logan Wilson, "Academic Administration: Its Abuses and Uses," *AAUP Bulletin*, XLI (Winter, 1955), pp. 684–92; Edward C. Cummings, "Leadership in Higher Education," *School and Society*, LXXXV (September 28, 1957), pp. 259–61; and William H. Martin, "The University: A Threat to Its Own Freedom," *Liberal Education*, XLVI (May, 1960), pp. 259–66.

W. Silas Vance *is a professor of English at Pan American College.*

aside their birthright to learning for quick degrees in educational methods.[4] Students, preoccupied with trivia, are unresponsive and sometimes openly hostile to serious instruction, putting in time for a college degree for its commercial value. Tolerated in shirking academic responsibilities, if not encouraged to do so, many are systematically idling, cheating, plagiarizing their way to an effortless "education."[5]

During the past thirty-two years I have taught in five colleges in Pennsylvania, Alabama, Oklahoma, and Texas. Among these have been privately supported and state-supported institutions, and most of them, I think, have been average and typical. But one of them stands out significantly as atypical. For two years (1920–1922) I was a student, and also for two years (1929–1931) I held an *ad interim* appointment on the faculty, at Baylor University. But when I was there, it was hardly more than a coeducational college, with an enrollment ranging from 1,100 to 1,300, and a faculty of about sixty-five. It was church-supported, and had little money, paid poor salaries, and had poor buildings, poor equipment, and a poor library. But it had one great asset: in S. P. Brooks it had a forceful and dedicated educator as its president.

After a considerable stint as a section hand on the Santa Fe Railroad, Brooks had himself attended Baylor and graduated in 1893 at the age of thirty. He was big-bodied, big-hearted, big-brained, honest and forthright, and to the end of his life had the intellectual curiosity of an eager scholar. Immediately after receiving the A. B. degree, he went to Yale and took the same degree there, and then taught history at Baylor for several years. Later, he returned to Yale and took the Master's degree, and while pursuing his studies was asked to become president of Baylor. That he did in 1902, and remained its head until his death in 1931.

Immediately, President Brooks began bringing into important positions good minds and good scholars. One of his earliest deans was a brilliant young teacher named Kesler. He was anything but a public-relations expert, but he was a stimulating educator, open, honest, provocative, almost startlingly candid. At one time he came under fire, many demanding his dismissal because of his evolutionary and modernist views. Brooks's defense of him was vigorous, and, when he publicly announced that if Kesler went, he went too, the furor soon subsided.

The new president managed to assemble a faculty of surprising strength, considering the meager salaries he was able to pay. He attracted and held teachers by creating for them conditions conducive to constructive teaching and by giving them a sense of security and contentment.

[4]See David Stevenson, "Who Will Teach the Teachers?", *New Republic*, CXXXVIII (January 13, 1958), pp. 9–12; Lloyd P. Williams, *op. cit.*, pp. 615–25; and Russell Kirk, "May Professors Profess Principles?", *Southwest Review*, XLV (Autumn, 1960), pp. 345–50.

[5]See Jerome Ellison, "Are We Making a Playground out of College?", *Saturday Evening Post*, CCXXXI (March 7, 1959), pp. 19–20; Jerome Ellison, "American Disgrace: College Cheating," *Saturday Evening Post*, CCXXXII (January 9, 1960), p. 13; Terry Ferrer, "Our Egocentric College Youth," *Saturday Review*, XL (September 14, 1957), p. 19; James B. Kelley, "View With Alarm," *Commonweal*, LXVIII (May 23, 1958), pp. 200–202; and Joseph F. Marsh, "A Hard Look at Higher Education," *Rotarian*, XCV (September, 1959), pp. 14–16.

In its early years, Baylor, like many church schools, was often delinquent in the payment of faculty salaries because of lack of funds or lack of management. At the very beginning of his term, however, Brooks let it be known that he would have no part in this sort of policy. All salaries must be paid regularly and in full. And during his nearly thirty years as president, there was no exception to this practice.

Every teacher who came to Baylor during Brooks's administration recalls pleasantly the several occasions when the president made a special point of asking whether he was getting along all right or was finding his work satisfactory or needed anything. These inquiries were not mere courtesies. One of his last utterances, as he lay on a hospital bed a victim of cancer, was an expression of interest in the welfare of retiring professors. "My counsel to you," he said to a few of his trustees gathered about him, "is to appoint a wise committee that will study the whole question in the light of the experience of the best institutions. . . . Let the University do its utmost to provide generously for these men."[6]

President Brooks respected his faculty and gave them his confidence. I remember that a student—a popular campus leader—once had the temerity to go to the president's office and lodge a complaint against a young instructor for having bluntly told him that the material he was turning in was plagiarized hash-work. The President was reported to have said to him: "Whatever complaint you think you have, you must go to your instructor and seek its adjustment there." This may seem routine. But I knew another college administrator who made a practice of calling faculty members to his office to defend themselves against student complaints. What such manifest lack of confidence does to the morale of a faculty would be hard to exaggerate.

The support President Brooks gave his faculty was vigorous and unfailing, and an unjust attack would quickly raise his blood pressure. On one occasion, the rumor spread over the campus of a fracas in his office, in which, it was reported, the President strode forward from behind his desk to confront some visitors. In a faculty meeting shortly afterward, he alluded briefly to the incident, admitting that he had shown temper and had spoken sharp words. "But," he explained simply, "they were *attacking you.*"

Perhaps the most extraordinary manifestation of President Brooks's concern was his effort to shield his faculty from demands for money. He did not permit anyone to solicit contributions from office to office on the campus. Once, I remember, he permitted a community leader to appear for five minutes before the assembled faculty to plead some benevolent cause—but on the condition that there would be no personal solicitation of the members afterward. I do not know whether he shared something of Emerson's impatience with door-to-door collectors reflected in that sage's remark, "By and by I shall have the manhood to withhold

[6]Joseph Martin Dawson, *Brooks Takes the Long Look* (Waco, Texas: Baylor University Press, 1931), p. 16.

[the dollar]";[7] but clearly he was determined to protect his faculty from the harassment, which he knew had been the lot of many church-school faculties, of being pressured to contribute out of their meager salaries to various and sundry causes.

IN THE spring of 1921, a nationally known preacher appeared at Baylor during religious-revival week. In the excitement of the occasion the idea somehow spread that during this week all classes, by administrative will, were to be opened with prayer. President Brooks quickly disclaimed any connection with the idea and not only emphasized as a guiding principle his view that the instructor must be free to conduct his class according to his own discretion, but expressed doubt that such a general practice, even on a voluntary basis, would be proper or desirable. That the President, who was a profoundly religious man, should take this attitude caused some surprised comment, especially among certain zealous souls unable, apparently, to believe any place inappropriate for public prayer, and convinced that there cannot possibly be an excess of this commodity. Flaunting religion in unseemly places got no encouragement from Mr. Brooks. He showed profound distaste for the political propagandist seeking to advance his cause by a display of unctuous piety. He held to the proprieties and special purposes of things, and I think he would view with scant sympathy such current practices as opening spectacles like football games with prayer—delivered to thousands of excited spectators over a loud-speaker. As the purpose of a class in mathematics or history is to teach mathematics or history, so the purpose of a football game is to play ball; and if a way must be found to get athletic affairs started soberly and properly, some ritual like voicing in unison a kind of Hippocratic pledge to good sportsmanship would seem more appropriate, and thus more effective, than a spurious prayer. Mr. Brooks would have relished the irony in the current definition of an atheist as one who goes to a football game and doesn't care who wins.

President Brooks apparently acted always on the belief that the purpose of a college is education. Matters that tended to get in the way of this purpose, whether religious excesses or Greek-letter fraternities or athletic extravagances, were sometimes dealt with forthrightly. At a time when football was rapidly becoming a big-time spectacle, he held firmly to the idea that the salary of a college coach should be kept in line with other faculty salaries. Out of this belief suddenly developed one of the minor crises of his administration.

During the 1920's, Baylor had a coach who produced three championship teams within three years, two of them in football. He was a campus hero—and soon went to the President for a salary raise. When Mr. Brooks demurred, the coach persisted, and in effect turned his request for a raise into a demand, threatening, if Baylor could not do better, to resign. Brooks's abrupt reply, "Coach, your resignation is accepted,"

[7] "Self-Reliance," *Emerson's Complete Works* (New York: Houghton Mifflin Company, 1929), Vol. III, p. 52.

ended, amidst general incredulity and dismay, what was perhaps the most "successful" coaching career at Baylor.

I'm not sure that Mr. Brooks gave much credence to the orthodox view that the purpose of a coach is to win games. A few years later, Baylor had another coach, an intelligent, conscientious man who was probably handicapped in his work by his inability to inculcate the more ruthless tactics of football. During his long career at Baylor his teams were only moderately successful. One year, his fifth season there, his success was so moderate that a clamor arose for his replacement. Before an assembly of students and faculty, the President put an end to the outcry in about four sentences, one of which was, "There's not a school in the conference that I would trade coaches with this morning." Many years later one heard the quip: "If a losing coach got into trouble, Brooks defended him; if a winning coach demanded a raise, Brooks fired him." At any rate, Baylor was soon able to lay claim to the distinction of having gone longer than any other school in the history of the conference (yes, twice as long) without producing a champion football team.

Academic standards were not high at Baylor, but there were standards, and they were not compromised. Pressure, exerted in the name of athletics or of public relations or of boosting the enrollment or of some educationist's gimmick, not to fail any student, but to give each as much education as he can receive and pass him on to graduation, was unheard of. No one doubted the President's interest in sound teaching, and he constantly sought to raise the standards. Many an alumnus will recall these characteristic words of Mr. Brooks as he appeared at the beginning of each academic year before an assembly of students:

> You are here to work. Your instructors will give you work to do. They will give you hard work. Some of you after a few weeks will give up and go home. Others of you will squander your opportunities and at the end of the quarter be sent home. But others will give something of your best to your work here and will come to know the rare satisfaction of intellectual achievement.

When Mr. Brooks spoke of those who would be sent home at the end of the quarter, he was being realistic. For in those years it was the policy of Baylor to drop for a quarter any student who failed more than one of his three courses. No pressure or influence ever brought about any exception to this policy; and I remember that in one instance the popular son of a very distinguished member of the board of trustees was dropped to think things over for a term.

President Brooks was a firm but also a patient and an amiable man; and when confronted with an impossible situation, he was fortified by a gentle sense of humor. In 1920, celebrating its seventy-fifth anniversary as Texas' oldest college, Baylor induced the poet Amy Lowell to give a lecture during commencement and to be honored with a Litt.D. degree. Everything went well until the final exercises on a hot June morning. Miss Lowell was not known for punctuality; Mr. Brooks was. And when the commencement procession was ready to march for prompt ten o'clock

ceremonies, everyone was present except the poet. Finally the President telephoned her and expressed the general anxiety for the ceremonies to get under way. "Hell, they'll wait," said Miss Lowell. Mr. Brooks returned to his place in the procession and chuckled as he recounted his experience. Then he patiently waited, and the packed, sweltering audience waited, as for once Baylor graduation exercises ran some fifteen minutes behind schedule.

WALKING across the Baylor campus one fall afternoon with two others and myself, President Brooks suddenly called our attention to numerous young pecan trees, some branches of which were badly battered by the rough efforts of the boys to harvest the ripening nuts. "I once objected to planting pecans as shade trees here," he recalled good-humoredly, "but I was outvoted." I have remembered that simple remark, "I was outvoted," as symptomatic of his open, tolerant, equalitarian spirit. He was the most democratic administrator I have known.

Editors and managers of student publications and leaders in student government were elected by popular vote, and their freedom of action was surprisingly complete. By comparison with the anemic and rather meaningless student "governmental" organizations in most colleges today, Baylor Student Government was an unbelievably virile and autonomous organization. It meted out punishment to students for what was regarded as wrong conduct in the academic community and even had a hand in disciplining them for such offenses as plagiarism and cheating on examinations. Student editors delighted in exercising their independence, and on rare occasions did some very crude things. On one occasion an editor was challenged to a duel by an offended student for some editorial ridicule, and for several days after the two boys met, duly seconded, along the Brazos River in Waco's Cameron Park, they were seen on the campus with bruised and swollen faces. At another time a writer made a brash attack on the religious creed of Rufus C. Burleson, the real creator of Baylor, informing us that the views of the venerable patriarch were naïve and insupportable—and that at a time when Baylor was having great difficulties with fundamentalists over the state. But no official pressure was brought to bear upon the students to limit such freedom of expression.

One of my memorable experiences as a student occurred in the spring of 1922. At that time there were two rival literary societies at Baylor, with traditions of many years, and the several contests they engaged in annually were climaxed by a grand forensic display at commencement known as the June debate. Now in 1922 the liveliest subject in Texas was the Ku Klux Klan. Sentiments concerning the Klan were so sharply divided that the governor of the state, though challenged to take a stand against it, remained as close-mouthed as a clam. And in the fall of that year Texas elected to the United States Senate a member of the Klan.

Shortly after four of us had been chosen as commencement debaters, it became known that my colleague and I were opposed to the Klan and that our opponents were for it. This highly controversial issue, therefore, seemed like a natural for us to debate, and that is what we decided to do. About two weeks before the debate was to be held, the press began to take notice of it, reporting among other things that local Klansmen were making plans to come to the college auditorium in a body to cheer on their defenders. Then about three days later, the four of us got a telephone call from the President's office, asking us to stop by. When we arrived, Mr. Brooks told us quietly that his office had received numerous telephone calls and some letters and telegrams protesting our debate. A single sentence from one of the protests has stuck with me. "I could not give any sanction, or token of sanction, to that sort of mob terror," wrote a revered old judge and a Baylor trustee, "not if my eternal salvation depended upon it."

In the Baylor environs, opposition to the Klan's activities had been bitter: several parades were turned into riots, and in the worst of these some people were wounded and one killed in a head-on clash with officers of the law. The idea of staging a formal discussion on a dignified occasion concerning whether there was a legitimate place for this kind of organization in our society seemed to many to be outrageous. Mr. Brooks himself showed no outrage. He was composed and genial—and, as always, explicit. He said: "Gentlemen, I have not asked you here to tell you that you should not hold this debate. I did feel that I should give you the information that has come to me concerning the public reaction. But you must decide what's best to do." With that, he left the matter in our hands, and we went on our way.

The following day we gave a short statement to the press canceling the debate. Our final decision was influenced not only by the public bitterness the discussion threatened to arouse but perhaps as much by the impasse we had arrived at in our total inability to agree upon judges for the contest. What Mr. Brooks did on that occasion was, I believe, a new kind of experience for all four of us. He had respected our freedom of decision as naturally as he might have respected our right to breathe, and he had also made us realize our responsibility in exercising it. The incident has remained one of the clearest and most refreshing memories of my student years. And I was interested to note some time ago that one of my former Klan-minded debating opponents (now a well-known clergyman), reminiscing about the great influences in his education, said, "Topping the list was S. P. Brooks."[8]

THE administrative staff of President Brooks was small and simple. Besides the registrar and treasurer, there were only an academic dean, who taught part time, and a dean of women, who supervised the girls' dormitories. Unlike many colleges today, Baylor had no vice-

[8] *The Baylor Line*, XIX (September-October, 1957), p. 15.

president, no plurality of academic deans, no director of student life, no admissions director, no official counselors (all the faculty counseled), and no publicity director.

With its modest staff Baylor ran smoothly; and without that presently indispensable staff member, a publicity director, Baylor enjoyed uncommonly good relations with the public, simply, I believe, on the strength of the fundamentally honest job it was doing. Is it just possible that people feel a healthier respect for educators who take a position of leadership in the realm of ideas than they do for those who through directed publicity are forever trying to trim their thoughts and policies to public sentiment? For many a college that is equipped with the inevitable publicity expert, popular respect seems a tenuous thing. In the average college today, with so many administrative trouble-shooters that they get in each other's way, I know of no complaint more general than that against confusion in functioning. It has become popularly known as "organized confusion." It is almost impossible for colleges so cluttered with overlapping functionaries to run smoothly.

An authoritarian college head tends to entrench himself behind a large staff of administrative subordinates. These favored officials serve as a kind of royal guard to his administration. They have large salaries and small teaching loads, if any; so they are loyal. Moreover, a college that has three or four well-publicized deans, instead of one, begins to look impressive to town and community. In one small college I have known, the administrative staff, part time and full time, totaled more than 25 per cent of the whole faculty. A colleague and I once calculated that this college, with very limited resources and low faculty salaries, was spending over $30,000 annually on superfluous administrators. In such situations, one is sure to find among the rest of the faculty, who often carry huge teaching loads of up to 180 students and have little or no voice in academic policies, a general ferment of resentment. Once, as a newcomer to a faculty, I was pointedly warned by a staff member against the "small, disgruntled anti-administration faction." Actually, the administration turned out to be the most strictly authoritarian within my knowledge. (Even the Kentucky college reported to have had only one faculty vote during a period of two years was easily outdone.[9]) For at least four years it permitted not a single faculty vote, nor even any faculty discussion of academic questions, and finally, like King Charles dissolving Parliament, virtually dispensed with faculty meetings. Of such conditions President Logan Wilson of the University of Texas has written,

> Extreme authoritarianism can hardly be maintained in our larger and better colleges and universities, but it is fairly common in small, mediocre, and insecure institutions. In such settings the administration likes to surround itself with an air of infallibility, and the atmosphere may become so oppressive as to drive away from the campus all but the most subservient professors.[10]

[9]Stevenson, *op. cit.*, p. 10.
[10]*Ibid.*, pp. 686–87.

Under President Brooks, academic policies were formulated by democratic processes, and the result was as close as I have ever known to what has been described as the unattainable ideal: "An academic community of teachers, scholars, and scientists . . . of equals in all important respects."[11] My brief stay at Baylor supplied me with numerous instances of the workings of democracy in a college faculty. Some of the matters that came before us were disposed of in ten minutes, others required an hour or more. I remember one session that lasted from 3:30 in the afternoon until 6:00 P.M. It concerned a single proposal for an important change in the curriculum. Over half the faculty took part in that debate. There were the inevitable trivialities, but there were also some worthwhile utterances. It was a lively and informative discussion, and some of us long remembered the substantial and persuasive arguments, on opposite sides of the issue, of the classical-minded Rhodes scholar and professor of Greek, Henry Trantham, and the pragmatic philosopher and professor of education, T. D. Brooks. Presiding, the President showed acute interest, but I have no idea what his views on the issue were. His dean went down fighting with the minority. When it was settled by a close vote, the President stood and adjourned us with the final remark: "This faculty has shown again that you can discuss a question in which you are interested with intelligence and vigor and come to a decision on it."

THE impact of President Brooks's character and his methods of administering a college—on the students, on the faculty, and on education—was extraordinary. His integrity and his democratic good sense gained him a respect that was almost unique. Students, faculty, and the public no more questioned the sincerity of his educational leadership than they doubted the solid earth they walked upon. Though he was not, in the sense of arousing spontaneous enthusiasm, a popular man among the students, two things were always evident: they showed complete faith in him; and when he stood before them to speak, as he often did, they listened.

I am not able to support the proposition that the influence of President Brooks brought about a revolution in the intellectual climate and improved the quality of education at Baylor; for those are intangibles and cannot be measured. But I will say this for what it is worth: during my four years there, Baylor (with less than 5 per cent of the college population of the state) had three future Rhodes scholars, nine future presidents of institutions of higher learning, a future national president of the American Association of University Professors, a future United States senator and Texas governor, and two United States congressmen.

But the most direct results pertained to the faculty. I found a finer *esprit de corps* at Baylor than I have seen in any other college or university. The faculty was staunch in its loyalty. The democratic procedures virtually disarmed criticism and made the existence of a so-called "anti-administration faction" hardly conceivable. Faculty turnover was small.

[11] *Ibid.*, p. 690.

Many on the staff had been there for thirty, and some for more than forty, years. It was known that several had had opportunities to go elsewhere with handsome raises. They did not go, and for reasons that I am convinced are more important than money to most college teachers.

What do teachers most want? Recently, just after we had heard a speaker discuss college salaries, a colleague came into my office and asked, "Is a salary raise what you are most interested in?" We quickly found ourselves in agreement that salary was not our first concern, that a good environment for teaching was. Interested in checking the matter further, I queried eight other professors more or less at random, as I encountered them at lunch and during coffee breaks. I wrote out this question: "If you had to choose between two college positions, (1) one with a salary raise of $500 but known to have an academic environment only ordinary or poor, and (2) another with no salary raise but known to have an excellent academic environment—meaning sound academic standards, administrative integrity in promoting good education, democratic policy-making, and a faculty sense of freedom and security—which would you choose?" One said that he would take the salary raise, that the second choice was meaningless, that conditions were essentially the same everywhere. Another said he thought he would take the salary raise, because it was something tangible and the other was intangible. The other six gave unqualified answers in favor of environment.

Apparently President Brooks intuitively understood this first need of the teacher. The magnificent academic atmosphere he created is an enduring monument to his superlative qualities as an educator. I have little information about what has happened academically at Baylor during the nearly thirty years since he died. The institution has had two distinguished non-academic men as presidents, an ex-governor of the state and an imposing clergyman; it has multiplied its buildings and tripled its enrollment; while maintaining one of the lowest college salary scales, it has long since been drawn into big-time football with high-salaried coaches; and, to mention a trivial but symptomatic detail, it has changed the name of its excellent alumni magazine, to give it, too, a football slant, from *The Baylor Monthly* to *The Baylor Line*. But I also read not long ago that five members of the present faculty have been at Baylor more than forty years, thirteen more than thirty years, and sixteen more than twenty years.[12] The longevity of these thirty-four veterans, most of whom began under President Brooks and some of whom began at about the same time he did, may well mean that Baylor has retained much that he gave it.

[12] *The Baylor Line*, XIX (May-June, 1957), pp. 10–11.

Science and Technology in European Universities

A New Educational Emphasis Abroad

By James A. McCain

THE democracies of Europe needed no prodding from Sputnik to undertake massive programs of research and development after the Second World War. Their universities have been important instrumentalities in this effort. To administer these programs, governments throughout Europe have created public and semi-public agencies with authority to establish laboratories and institutes and allocate state and private funds to independent research organizations for both basic and applied research. Professors have had prominent representation on the executive staffs and governing councils of these bodies; universities and institutes of technology have been major recipients of agency grants.

A universal shortage of scientists and engineers has been an obstacle to the success of these research programs, as well as to scientific and industrial development generally. To alleviate this shortage, university faculties of science and institutes of technology have been expanded and new engineering schools have been established. Active campaigns have been conducted to recruit qualified students for these fields; simultaneously, university admissions examinations have been modified in order to accommodate applicants proficient in science and mathematics but deficient in the intensive degree of humanistic knowledge formerly demanded by higher institutions. Every nation I visited in Europe recently was employing one or more successful measures for increasing the numbers of students majoring in science and engineering.

In France, for example, this problem was being attacked on at least four fronts. An intensive publicity campaign employing the press and radio was being conducted to interest youth in science and engineering. Various institutions, through their bureaus of university statistics, were actively recruiting students in the lycées for these two fields. A new National Institute of Applied Science had been recently opened at Lyon, and had a first-year enrollment of 450; students were accepted without being subjected to the special examination required for admission to all other engineering schools. At the University of Grenoble, the affiliated engineering school had recently initiated a program under which factory workers in

James A. McCain *is president of Kansas State University. Much of the information in this article was gathered during his visits, as an Eisenhower Fellow, to forty European universities.*

the area, selected by means of aptitude tests, are allowed to earn engineering degrees through evening and part-time study while they are still employed. This program was hailed as a means of salvaging the talents of men of high mental ability who had been denied the opportunity to attend a university in their youth. A new nation-wide examination procedure for university admission was expected to increase the number of students in science and engineering courses, since the traditional baccalaureate examination, with its emphasis on general culture, was believed to have eliminated many students well qualified in science and mathematics. Plans had been made for construction at the Sorbonne (University of Paris) of a large new plant for the Faculty of Science.

Greece, which is graduating 250 engineers a year at the present time, less than half the nation's needs, was expanding its facilities for engineering training. Two major new buildings were recently completed at the Technical University in Athens, financed in part from a tax of one-half of one per cent on all public works for which the government contracts; $250,000 of Marshall Plan aid had been made available to assist in equipping the laboratories in these new buildings. A second engineering university had just been opened at Salonika.

In Sweden, in contrast to the 11,000 engineers now employed in the nation, 17,000 will be needed by 1965; even with a planned enlargement in training facilities, there will be a shortage of at least 1,000 engineers at that time. At the Royal Institute of Technology in Stockholm, one of the nation's two engineering schools, several impressive new buildings have been completed since 1946 at a cost of 50 million kroner plus 20.7 million kroner for equipment.

In Great Britain, in contrast to the 119,700 scientists and engineers employed in 1957, it was estimated that 220,000 would be needed by 1966. The University Grants Committee, through which Treasury funds are distributed among universities, had taken several positive measures for supplying these additional numbers. From 1952 to 1956, 13 million pounds of state grants were allocated to the various universities for expanding their facilities in science and engineering; 62 per cent of U.G.C. building grants for the five-year period beginning in 1957 were earmarked for science and engineering. Funds were granted to the Imperial College of Science and Technology at the University of London to enlarge its facilities sufficiently to raise its enrollment from 1,000 to 3,000 students. In 63 of the nation's 550 technical colleges (originally established to offer evening and part-time vocational training) "sandwich courses" had been established to enable factory workers to earn a diploma in technology, the equivalent of a B.S. degree in engineering, conferred by the National Council on Technology. The students in these courses alternate six months on the job and six months in school, and complete the course in four years. Three thousand students were enrolled in the sandwich courses.

THESE efforts had achieved impressive results. In Greece, the enrollment in the Technical University in Athens had increased in two years from 1,165 to 1,400, and was expected to grow larger when the school's present physical-plant expansion is completed. The second engineering school just opened at Salonika provides for further increases. In France, the number of students in university faculties of science grew from 20,666 in 1947–48 to 40,200 in 1956–57. Engineering enrollment had risen 20 per cent a year from 1955 to 1957. Enrollment in the two Swedish technical institutes has grown from 1,605 in 1940 to 4,000.

In Great Britain, approximately 50 per cent of all university students were specializing in science and technology as compared with less than 25 per cent before the war; two-thirds of the increase in students anticipated for the next decade were expected to specialize in science and technology. The annual output of 10,000 scientists and engineers in 1957 should rise to 16,000 by 1966. Facilities were being expanded eventually to accommodate as many as 20,000 students in the engineering "sandwich courses." Incidentally, deep concern was expressed in Britain over this shift in emphasis from the arts to science and technology. Oxford was often referred to as the last stronghold of the humanities. There was much speculation over the possible long-time effects of this transition on a nation which has traditionally relied on arts graduates for its top public leadership.

In efforts to solve this critical man-power problem, there was a singular lack of co-operation and co-ordination among Western European countries despite their military and economic alliances. The more prosperous nations continually lured scientists and engineers from the least prosperous. Many such professional workers trained in Greece and Austria were employed by firms in West Germany, Switzerland, and Sweden. The entire 1957 graduating class of one of Austria's largest engineering schools accepted foreign employment before the end of the term. The Swiss complained that their engineers and scientists were hired away from them by French and British firms. Everywhere, I heard complaints that engineers and scientists were being lost to the United States. No European-wide effort was being made to match supply and demand despite some instances of an oversupply of professional workers in some areas and a short supply in others. It was estimated that there were as many as five thousand university-trained mathematicians and scientists in Italy who were either unemployed or employed in non-scientific positions; more than 275 qualified mathematicians had recently applied for three teaching positions in the lycées. Spain had an oversupply of chemists as well as of veterinarians and physicians. The military and economic strength of Western Europe could be effectively served by the establishment of a central professional manpower pool, a project which might be undertaken by the Organization for European Economic Cooperation, UNESCO, or even NATO.

RESEARCH has always been an integral part of the European university. Scholarly productivity is the qualification invariably given priority in the appointment of professors, and each professor is expected to devote at least half of his time to independent studies. Since the war, the research programs of universities have been enormously accelerated by grants of funds from national research agencies to individual professors, to laboratories, and for the support of graduate fellowships in the sciences. For example, universities have had a major role in the impressive research programs launched by the governments of Norway and the Netherlands since the war as a means of overcoming a lag in industrial development and of simultaneously providing employment for a rapidly increasing labor force.

Three semi-official research councils have been established in Norway: the Council for Science and the Humanities, the Agricultural Research Council, and the Council for Scientific and Industrial Research. These councils receive their principal financial support from a combination of state grants and the total net profits of the Norwegian Football Pools, Ltd.; their total expenditure for the 1957 fiscal year was 22,800,000 kroner. The Council for Scientific and Industrial Research supports many institutes and laboratories specifically established to stimulate industrial development. A number of these are located in beautiful new buildings recently constructed by the Council on a mountainside on the outskirts of Oslo. All three councils make generous grants to Norwegian universities and professors for research programs. By the aid of such grants the University of Bergen had recently acquired a biological research station, and the University of Oslo a laboratory of radio chemistry. Norwegian professors have heavy representation on the governing boards of the Councils. Of the twenty-six members of the Council for Scientific and Industrial Research in 1957, for example, all of them appointed by the Crown, eleven come from universities. The Council for Scientific and Industrial Research established an Institute of Atomic Energy which was receiving an annual appropriation of 18,000,000 kroner from the National Assembly. The Institute was equipped with an 800-kilowatt uranium reactor, and operates a heavy-water national uranium reactor established in 1951 at Kjeller, in Norway, in co-operation with a similar organization in the Netherlands.

Much of the phenomenal industrial progress of the Netherlands since the war is directly attributable to research. Royal Dutch Shell, Philips Electric, and a few other major corporations conduct enormous programs of research and development. Two semi-public agencies, the Organization for Applied Scientific Research, established in 1930 but greatly expanded since the war, and the Organization for Pure Scientific Research, created in 1950, allocate state and private funds to numerous laboratories and institutes and to universities. The Institute of Technology at Delft, equipped with superb laboratories in all areas of Dutch industrial activity,

conducts extensive engineering studies in co-operation with both national research agencies. Most of the nation's farm-research programs are centered at the Agricultural University of Wageningen. Both national agencies support research programs in medicine and the pure sciences in the universities of Leiden, Groningen, Utrecht, and Amsterdam.

In France, several billion francs a year are allocated to university science faculties and laboratories by the *Centre National de la Recherche Scientifique*, one of several research arms of the government, established in 1945. Each of the thirty-two sections of the Center is governed by a sixteen-man committee, two-thirds of the membership of which is composed of professors elected by their colleagues, 10 per cent of the members coming from industry. In addition to providing funds for scientific personnel and equipment, the Center also subsidizes missions for sending scientists abroad for investigation and research.

One of four principal governmental research agencies of Great Britain is the Department of Scientific and Industrial Research, which corresponds roughly to a combination of the National Science Foundation, the Bureau of Mines, and the Bureau of Standards in the United States. Treasury grants to D.S.I.R. had increased fourfold since the Second World War, and in 1957 totaled 30 million pounds annually, with additional funds for buildings and laboratories and their maintenance. One of the three objectives of D.S.I.R. is "the encouragement of fundamental research at the universities and elsewhere and the maintenance of an adequate supply of trained research workers and of certain other scientists and technologists." To achieve this purpose, 2,500 university fellowships for graduate study in the sciences are supported annually, and funds are allocated to launch new university scientific projects considered especially promising. Once initiated, these projects must look for their continued support to regular university funds.

The central research organization of the German Federal Republic is the *Deutsche Forschungsgemeinschaft* (German Research Council), organized in 1949. All German universities and university-level institutes participated in the formation of the Council and have membership in it. In 1955–56, the Council disbursed 31,600,000 German marks, 20 million of which were received from the federal government, 8 million from the *Laender*, or states, and 3,600,000 from private industry. Most of these funds were allocated to the universities and technical institutes for both fundamental and applied research.

Impressive examples of direct co-operation between industries and universities in research programs, although not as common as in the United States, are to be found in many European countries. One of the finest metallurgical laboratories in the world has been established by the Belgian steel industry at the University of Liège. An ultra-modern chemical laboratory has recently been built by Royal Dutch Shell at the Institute of Technology at Delft.

PROGRAMS of nuclear studies are being vigorously expanded throughout Europe, and universities and institutes of technology are active in this important field. In some respects, the capstone of European nuclear research is the European Council for Nuclear Research (CERN), established in 1954 under UNESCO sponsorship at Meyrin, a Swiss village near Geneva. CERN represents the pooling of the resources of twelve nations, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and Yugoslavia, for the support of a research program in high-energy physics which no single nation could have undertaken by itself.

The organization is somewhat analogous to that of the Brookhaven Laboratories in New York, which involve the co-operative efforts of twelve American universities. CERN is devoted exclusively to pure research, undertaken for peacetime purposes. From capital resources of 219 million Swiss francs, impressive laboratories have been constructed to accommodate two particle accelerators and other expensive facilities. One of these accelerators, a synchro-cyclotron designed to work at an energy level of six-hundred-million electron volts, had just gone into operation. The other, a proton synchrotron with an energy level of twenty-five-billion electron volts, was expected to be in operation in 1960. The organization had a staff of 550 persons, approximately 130 of whom are nuclear physicists. A principal purpose of CERN is to stimulate programs in high-energy physics throughout the scientific community of the world. Appointments to staff positions are usually of short duration in order to provide for a constant flow of scientists through the laboratories. Forty fellows and research associates are appointed annually to the staff for periods ranging from six to twelve months, and facilities are offered to visiting scientists and scientific teams who wish to avail themselves of the laboratories for work or observation. Close co-ordination is maintained between CERN and European universities, many of which are taking advantage of the opportunity thus afforded for the advanced training of scientists and engineers in nuclear energy.

The Role of the Professor in College-Day Programs

Conveying a True Image of the University

By T. Harry McKinney

WHAT is the role of the university professor who participates in "college day" programs? Are there other and perhaps more effective ways for him to contribute to the guidance activities of secondary schools? And if so, does involvement in these activities represent wise use of his time and effort?

These three questions draw their significance from the experiences of a small group of faculty members at Michigan State University who devoted part of their time last year to an experimental project in the office of admissions and scholarships. More specifically, these faculty members were given the responsibility for visiting high schools throughout the state and representing the university at what are generally referred to as college-day or college-night programs. Such programs are sponsored by many schools to acquaint students and parents with requirements and opportunities at various institutions of higher education.

Although conclusive answers to the questions posed would be inappropriate at this time, my journeys as a member of the admissions group indicate (1) that a university professor can make a valuable and much-needed contribution to these programs by directing attention to matters related not so much to his own institution as to higher education in general; (2) that there are at least three other avenues of approach which he may use in helping principals, counselors, and teachers guide students into college; and (3) that the benefits to be obtained from these activities deserve serious consideration from college and university faculties, even in these days of increasing enrollments.

Ordinarily, colleges and universities in Michigan send non-academic personnel called admissions counselors to represent them in the schools. Some institutions send members of the faculty on occasion, usually to accompany and assist admissions counselors. Apparently none of them, however, have made it a practice in past years to use faculty members exclusively.

Regardless of whether representatives are admissions counselors or faculty members, college-day programs tend to fall into one or the other of two broad categories. One type of program is usually held in the

T. Harry McKinney *is an associate professor in the Department of Social Science at Michigan State University.*

school gymnasium, where representatives stand or sit at small tables lining the walls. Throughout the program, students and parents circulate freely from one table to another, picking up descriptive materials and asking questions.

Programs in the other category frequently begin with a brief assembly in the auditorium, where representatives are introduced to all students and parents. This is followed by, say, three periods of thirty minutes each. During these periods, the representative remains in a separate room that has been assigned to him, generally one of the classrooms, and students and parents spend one period with him if they are interested in his institution.

What is the professor's role in these two kinds of programs? Unfortunately, the gymnasium arrangement presents an almost hopeless situation. About all he has to do, or can do, is distribute booklets and answer trivial or irrelevant questions. Sometimes even this is not required. On several occasions last year the only sensible course of action was to stand safely out of the way while students rushed eagerly from table to table, grabbing booklets about as many institutions as possible—booklets which I strongly suspect were never read.

Less frustrating is the classroom type of program, which offers a choice of roles. On the one hand, the professor can adopt the customary procedure of college and university representatives and attempt to sell his audience on the merits of the institution that pays his salary. On the other hand, if recruiting is not his purpose, he can reject the salesman's role and provide the intellectual leadership which these programs so often need.

By way of explanation, let me say that most representatives use the following procedure in classroom situations. At the beginning of each period they distribute catalogues, booklets, or leaflets to everyone in the room. Next they give a brief talk covering items of general interest to the group and of particular interest to them or their institutions. Then they devote the rest of the period to answering questions.

The tactical aspects of these performances range from the "soft sell" to the "hard sell," but the purpose is always the same. Indeed, the air of huckstering that prevailed at some programs I attended last year was both disgusting and disturbing. It was disgusting to realize that institutions supposedly dedicated to seeking the truth would allow their representatives to distort the truth in recruiting students, and disturbing to think that young people might be taken in by some of this misrepresentation and make unwise choices regarding what colleges and universities they should attend.

For the professor, this approach to students and parents is inappropriate, inadequate, and ineffective. It is inappropriate because recruiting activities cast unfavorable light on the dignity of the teaching profession. Furthermore, our society suffers enough from the excesses of salesmanship as it is, without members of the academic world adding to the clamor and confusion.

It is inadequate because it leaves students and parents with little more than useless answers to meaningless questions. With few exceptions, students mirror the materialistic, pleasure-seeking influences of our culture by asking about detailed requirements of vocationally oriented fields of study or about extra-curricular activities of various kinds. For the student who is truly interested in a university education, these questions are irrelevant. Besides, they are answered in catalogues or other materials which colleges and universities send regularly to the schools and will mail to any person who knows how to write his name and address on a post card. Incidentally, parents seldom ask questions under these circumstances; they just listen.

Finally, the procedure is ineffective because it recognizes neither the needs of the students nor the capabilities of the professor. As their questions clearly reveal, most students do not really understand the nature and purposes of higher education. They view it only as it relates to financial security, opportunities for marriage, conspicuous leisure, or all of these combined. Someone needs to repeat what principals, counselors, and teachers have undoubtedly said—that a college education should mean far more than this. Who should be better able to accept this responsibility than the professor himself?

AFTER suffering through a few programs early last year, I decided that inexperience was no excuse for idiocy, and promptly abandoned the sales approach. Briefly, the procedure I adopted in its place hinged on (1) an offer to answer specific questions about fields of interest by mail—questions I later passed on to appropriate members of the faculty to answer—and (2) a frank statement that I was a faculty member rather than an admissions officer and that therefore I might best be able to answer questions closely related to academic life in general.

Students responded in an encouraging manner. They began to ask such questions as the following: What courses should you take in high school to prepare for college? Do college professors require themes and book reports? Do they give essay-type examinations? And one student, bless her soul, even asked, "Is the library open at night?" These and similar questions furnished the openings I needed to interject matters of importance in all my talks with students. What is more significant, perhaps, I had frequent opportunities to re-enforce positions already taken by principals, counselors, or teachers.

Even more pleasing was the changed attitude of parents. Not only did they join in the questioning, something they rarely did under the old procedure, but quite often they also introduced important topics by referring to public statements about higher education that they had heard or read. And, lo and behold, some disagreed with me on occasion, thus giving me an opportunity to clarify my position or qualify my remarks. In short, we had some lively discussions—discussions which benefited everyone, including me, and which frequently lasted well beyond the allotted time.

I recall, for example, one college-night program scheduled to be over at 9:30 P.M. After the last period, a group of students and parents came back to my room to continue a conversation we had begun earlier that evening. We talked, and time flew. It was almost midnight when the principal poked his head in the door, listened for a moment or two, then reluctantly broke it up with, "Let the poor devil go home; he has a three-hour drive ahead of him."

ALTHOUGH the results of this change in procedure brightened my outlook on college-day programs considerably, I still believed that there must be more effective ways for a university professor to contribute to college guidance in the schools. So I began to call on principals and counselors to investigate other avenues of approach.

Three ideas emerged. One of them concerns the possibility of sending professors into the schools early in the year to bring principals and counselors up to date on recent developments at the university and to answer questions. Practically everyone agreed that this approach would be helpful, and in some schools it was obviously needed. Naturally, the university would benefit, too, because this would give added assurance that students and parents were properly informed about the educational opportunities the institution had to offer. Furthermore, as one principal remarked, it would do professors good to get out of their ivory towers and see at first hand some of the problems that arise in high schools.

Another idea relates to meetings of parent-teacher organizations and other adult groups. Many principals and counselors thought that a university professor could help them most by attending meetings of this kind, giving a brief talk about higher education and answering questions. As they said, their most difficult guidance problems often originate in the home, especially when parents are indifferent or even antagonistic to the prospect of higher education for their children.

The third idea concerns the need for discussing the subject of higher education with students long before they reach the junior or senior year in high school and are invited to participate in college-day programs. After all, students begin to make important college-going decisions in the eighth or ninth grade.

Fortunately, in the course of my travels last year I met numerous principals and counselors who, like me, were interested in seeing how students in the lower grades of the secondary school would react to meeting a university professor. Their willingness to experiment, which was most encouraging, led me to talk with young people in every grade (VIII–XII) at all kinds of schools (large and small, urban and rural) about a variety of topics related to higher education.

Although there was nothing "scientific" about these experiments, two generalizations are permissible. First, I found that students at every level and in practically every school knew little or nothing about higher education except its implications for "better" jobs or "better" husbands.

Second, I discovered that the closer the student is to graduating from high school, the more reluctant he is to view going to college in any other perspective.

At one school, for example, a counselor invited me to talk with a group of able Seniors who, for one reason or another, had set their educational sights too low. After pooling ideas with the counselor and one of the twelfth-grade teachers, I asked the students three basic questions. First, "How many of you are going to college?" Some of them raised their hands, and I nodded approval. Second, "Who can tell me what a college is?" Embarrassed silence. Finally, one student ventured an answer, and a few others followed his lead. But all they really said was that a college is an institution of higher education. Then, "Why are you going to college?" More answers this time, but again all about the same: You have to have a college education nowadays to get a good job.

When I suggested that a college or a university is an environment for learning and that perhaps one should go to college primarily for the excitement of learning, their reactions ranged from mild skepticism to open hostility. Not unexpectedly, one student challenged the idea that learning could be exciting. I defended my position with a series of examples, and the battle began. At the end of the hour, there were still no outward signs that these students had accepted this interpretation of a college education. But they were disturbed, and some looked over their shoulders with puzzled expressions as they left the room. As the teacher remarked, they were thinking—and thinking hard. We agreed, however, that what I had said probably came too late for most of them.

At another school a few days later, I used the same approach on a group of advanced ninth-graders. What a refreshing experience this was! Like the Seniors, their concept of a college education was closely related to its vocational aspects. But when I confronted them with the idea that learning is exciting and that one should look forward to higher education with this in mind, there was no skepticism, no hostility. Their eyes reflected enthusiasm for the idea, and their questions displayed eagerness to pursue the subject.

Now I admit that this was a carefully selected group of students and that a comparison of their reactions with those of Seniors at another school has serious limitations. Yet after these two incidents I questioned students ranging from the eighth to the twelfth grade in many different schools and sometimes in the same school. Reactions differed with the circumstances, naturally, but the pattern of responses was about the same everywhere.

THIS brings us finally to a question of the utmost importance when faculty shortages threaten colleges and universities all over the nation. Do the activities I have described represent wise use of the time and effort of college or university professors?

Such a question is difficult to answer, of course, because time

devoted to visiting schools is time that could be used for on-campus teaching or research. Obviously, prudence requires careful weighing of the benefits to be obtained from these alternatives.

Regardless of circumstances, however, two conditions must be met to justify an affirmative answer. First, the professor must not devote so much time to participation in the guidance programs of secondary schools that he ceases to be a scholar and becomes a strange breed of admissions counselor instead. If this happens, he loses not only the respect of his colleagues but his effectiveness in the schools as well. And second, schools desiring the services of the faculty member must plan and schedule events so that his time is used as effectively as possible. Because of the traveling involved, a combination of activities in each school is generally advisable.

Given these conditions, what benefits result? By visiting secondary schools and participating in their guidance activities, the professor has an opportunity (1) to gain a better understanding of differences in the educational backgrounds of those who may later become his students; (2) to challenge and inspire able students to continue their formal education beyond high school, and to continue it for the right purpose; (3) to combat anti-intellectualism at an early age by lending support to principals, counselors, teachers, parents, and students who want to give brain power first priority; (4) to reflect an image of his institution that is consistent with its primary purpose, which is learning; and (5) to destroy the unfortunate stereotype of the college professor which prevails in so many communities.

Truly, these benefits deserve the attention of college and university professors everywhere.

The Effects of Acceleration on Social and Academic Achievement

A Comparison of Accelerates and Matched Non-accelerates at the University of Buffalo

By Gloria Ortner Chapman

OPTIMAL utilization of the talents of superior students is the topic of many speeches but the object of little research. Although a variety of techniques have been employed, the pitifully small number of research projects and the restricted dissemination of the results make it necessary that this area be more thoroughly studied and reported.

Acceleration at the elementary-school level is the most common provision for the gifted in the United States but is less frequently used in Europe. European nations usually permit acceleration at the college level, whereas at the pre-college level they have various patterns to "enrich the curriculum" of superior students. In contrast to European colleges, a large number of colleges in the United States enrich the curriculum by means of honors programs for superior students, but relatively few provide techniques for acceleration. Most of the American attempts to help students shorten the number of years in college were precipitated by the veterans who enrolled after the Second World War. More recently, the Ford Foundation for the Advancement of Education has given support to these efforts. In contrast to the expectations of the public, long-range evaluations of such special programs for superior students have been consistently optimistic. Because the public, and indeed many educational administrators, seem strongly opposed to acceleration, this writer believes it important to integrate the studies made in order to develop a general law of acceleration.

The major studies of acceleration have been made by Terman and Oden,[1] Keys,[2] and Pressey.[3] Both the Terman and Oden and the Keys studies compared students who had accelerated at the pre-college level with equally able non-accelerates. Pressey investigated Ohio State University students who were enabled primarily by summer courses and

[1]Lewis Terman and Melita Oden. *The Gifted Child Grows Up: Twenty-five Years' Follow-Up of a Superior Group* (Stanford, California: Stanford University Press, 1947).

[2]Noel Keys, *The Underage Student in High School and College: Educational and Social Adjustments* (Berkeley, California: University of California Press, 1938 [University of California Publications in Education, Vol. 7, No. 3]).

[3]Sidney L. Pressey, *Educational Acceleration: Appraisals and Basic Problems* (Columbus, Ohio: Ohio State University, 1949 [Bureau of Educational Research Monographs, No. 31]).

Gloria Ortner Chapman *is a senior counselor at the Counseling and Testing Center, Stanford University.*

heavy programs to graduate from college in three calendar years or fewer. The major studies of advanced placement, or college-credit examinations, which have included postcollege achievements were made by Wagner[4] and Jones and Ortner.[5] The accomplishments of students who took a number of these examinations were compared by Wagner with those of the total student body and by Jones and Ortner with equally able students who did not take part in the examination program.

Since there seem to be some consistencies among the results of these research projects dealing with acceleration and advanced placement, although they have dealt with varied aspects of the problems of articulation, such as pre-college acceleration, college acceleration by means of summer courses and extra-heavy loads, the effects of advanced standing on those who accelerate, and a comparison of accelerated students with the total student body, it is possible to establish a general hypothesis concerning the results of acceleration: Academic achievement does not decrease; there is, however, a decrease in social participation. Students do not later regret having accelerated.

If this hypothesis is generally valid, then its application to a set of data comparing the achievements of students who accelerated by means of college-credit examinations with students of similar ability who did not accelerate should yield confirmatory results. Dissimilar results would indicate that the differences in educational institutions, grade-level, or techniques are important considerations.

TO EVALUATE this hypothesis, a comparison was made between students at the University of Buffalo who had used nine or more semester-hours of examination credit to shorten their Bachelor's program and equally able and equally well-prepared students who spent four years at the University and received all their credits by regular instruction. The University of Buffalo has offered the program for over twenty years; hence the results were not susceptible to influence by the novelty of innovation, and the alumni could evaluate the effects of such a program on postgraduate education, professional competence, and community participation.

Although 188 students entered the University of Buffalo with at least nine semester-hours of college credit, only 69 obtained the Bachelor's degree in three years or less;[6] some of the others entered professional schools, such as law or medicine, which did not require a preliminary Bachelor's degree; some attended college for three and a half or four years despite possession of the extra credit. In this study, 13 graduated in less than three years, 21 in three years without summer courses, and 32 in three years plus summers. Only 21 did not take any summer work. The amount of credit earned by examination ranged from nine to forty-

[4]Mazie E. Wagner, *Anticipatory Examinations for College Credit: Twenty Years Experience at the University of Buffalo* (Buffalo: University of Buffalo, 1952 [University of Buffalo Studies, Vol. XX, No. 3]).

[5]Edward S. Jones and Gloria K. Ortner, *College Credit by Examination* (Buffalo: University of Buffalo, 1954 [University of Buffalo Studies, Vol. XXI, No. 3]).

[6]Of the 69, suitable controls did not exist for three.

two hours, though twelve to fourteen hours was the amount most frequently earned. Only three students earned over a year of credit by examination.

The control group was composed of students whose opportunity to achieve success had been approximately equal to that of the experimental groups. The five most salient factors making for success in academic and social activities were chosen as criteria for matching each accelerate individually with a non-accelerate.

Studies conducted at the University of Buffalo and by the New York State Department of Education have shown the average of grades received on the New York State Regents' examinations to be the most valuable instrument for predicting college grades. The members of 44 of the 66 pairs differed less than four points on this criterion; in the case of 9 of the remaining 12 pairs, the controls ranked above the accelerated. In 28 cases, the control member was one or more points higher than the accelerate; in 21, the accelerate member was higher; for 17 pairs, the average was the same. A critical-ratio test indicated no significant difference.

To establish a control group that had had equally extensive high-school preparation, accelerates were matched with non-accelerates who had a similar number of Carnegie units. In 20 pairs, there was a difference of less than one unit; in 18 pairs, of only one unit. When the chi-square test was applied, there was no significant difference between the two groups.

Students were matched according to type of college program in order to control the nature of the academic work involved, the competition, and the postgraduate activities.[7] Because previous studies at the University of Buffalo had shown that the academic achievement and the social participation of college women were higher than those of men, each accelerate was matched with a non-accelerate of the same sex. There were thirty-one women and thirty-five men in each group.

In order to control the length of time between the student's entrance into college and his participation in this study, the nature of the college population and procedures, and the socio-economic conditions, accelerates were matched with non-accelerates who entered roughly in the same year. Of fourteen pairs, both members entered the same year; in the case of twenty-one, there was one year's difference; of twenty-seven, two years; of two, three years; and of two others, four years.

Although it was not possible to use more than five criteria for individually matching the accelerates with controls, an attempt was made to identify additional factors by comparing the two groups by means of chi square. Age at entering college was similar for the two groups. Forty-three per cent of the accelerates and 42 per cent of the non-accelerates were sixteen years and ten months of age—or younger—when they

[7]Eighty-eight per cent of the students were in the College of Arts and Science: 15 per cent in the humanities, 35 per cent in the natural sciences, and 38 per cent in the social sciences. Nine per cent of the pairs were in the School of Business Administration, and 3 per cent in the School of Engineering.

entered college. Only 3 per cent of the accelerates, as compared with 9 per cent of the non-accelerates, were between eighteen years and eleven months, and twenty years and ten months, of age. Eleven per cent of the accelerates, as compared with 9 per cent of the non-accelerates, were over twenty years and ten months old at the time of entering. A comparison of the men in the study showed that nine of the accelerates and seven of the non-accelerates had been in military service prior to entering college; four accelerates and three non-accelerates interrupted their college program to serve in the armed forces. These differences were not significant.

A comparison of the two groups by the use of chi square showed some disparity in family background, as indicated by the amount of education of the father and the mother and by the father's occupation. It was not possible to obtain complete information about these factors for more than forty-two of the sixty-six pairs in the study; when tested by chi square, the data indicate that (1) a similar proportion of both groups came from homes in which the father did not attend high school or college, (2) significantly more of the controls than of the accelerates came from homes in which the father had attended high school but not college, and (3) significantly more of the accelerates than of the controls came from homes in which the father had attended college.

Significantly more controls than accelerates came from homes in which the mother had attended grammar school only. A similar proportion of each group came from homes in which the mother had attended high school and from homes in which the mother had attended college.

The occupations of the fathers were arranged in a hierarchy of status similar to the distribution used in the *Dictionary of Occupational Titles*. When the total distributions were compared by chi square, a significant difference between the two groups, at the 1-per cent level of confidence, was indicated. Further inspection of the data by use of critical ratios showed that a larger proportion of the accelerates, 26 per cent as compared with 9 per cent of the controls, came from homes in which the father had professional status; however, at the semi-professional level, the controls somewhat counterbalance this difference since 7 per cent came from homes in which the father had semi-professional occupational status as compared with no accelerate from such a home. At all other levels in the occupational hierarchy, there was close correspondence in the proportions of each group.

It would appear that high-school preparation (in terms of number of units and New York State Regents' examination average), year of entrance to college, sex, type of college program, age at time of entrance to college, and occurrence of military service were controlled; education of parents and occupation of father were dissimilar. Because some disparity did exist, a 1-per cent level of confidence was established as the standard for determining whether differences in achievement were significant.

THE mean grade-point average of the accelerated group in the Junior Division of the colleges was higher than that of the non-accelerated; the difference, however, was not statistically significant at the limits of this study. It is notable that the grades on the college-credit examinations, which were included in the computation of the Junior-Division grade-point average, acted as depressants. Even though handicapped in this manner, the accelerates equaled the non-accelerates in ranking. In order to determine whether there was a difference between the grades of members of each pair, the differences were computed and tested by critical ratio. Again, the difference was not significant. The Senior-Division grade-point averages were compared; although the average of the accelerates was higher than that of the controls, the difference was not significant. The difference between the members of each pair was computed; these differences were not significant.

The Comprehensive Examination of the College of Arts and Sciences was used to compare the two groups, since the examination is required of all Seniors so that inadequacies in information and understanding of the major field can be detected. For both groups, the modal grade was *B*, and at no grade interval was there a significant difference between the accelerates and the non-accelerates. Twenty-one accelerates, as compared with twenty-four controls, were awarded honors at graduation. This is not a significant difference.

Whereas data relating to academic achievement were available for all students, facts and figures regarding social achievement were available for only forty-three pairs. Of these, 90.70 per cent of the accelerates and 95.35 per cent of the non-accelerates had joined at least one college group. This difference is not significant. Of the accelerates, 60.47 per cent took part in more than two activities, whereas only 51.16 per cent of the controls had participated in as many; although this difference is not significant, it had been expected on the basis of other studies that the proportion of accelerates who had participated in more than two activities would be significantly smaller than the proportion of controls.

When the two groups were compared, it was found that twenty-three of the accelerates had held a college office, as compared with twenty-one non-accelerates. Although this difference, like that found in the comparison of membership in more than two activity groups, is not significant, the direction is dissimilar to that which has been found in other studies. Since 18.60 per cent of the accelerates, as compared with 30.23 per cent of the controls, held more than two offices, the difference, which is in the direction indicated by other studies, is not significant.

A questionnaire was returned by forty-seven of the pairs. Of the accelerates, 80.85 per cent thought that there was no serious disadvantage in taking the college-credit examinations; 14.89 per cent believed that there had been some disadvantage; and 4.25 per cent were undecided. Of the 14.89 per cent, 10.64 per cent replied that in spite of the disadvantages, they would take the examinations and would accelerate if

they had it to do over again. Only 4.25 per cent would have taken the opposite course. Of the non-accelerated, 61.79 per cent replied that they would take the examinations if they had it to do over again; 29.81 per cent stated that they would not; and 8.52 per cent were not certain.

On the basis of the studies of Terman and Oden, Keys, Wagner, Jones and Ortner, and Pressey, it might be expected that accelerated students would be satisfied with the technique. To examine whether the general satisfaction shown was prompted by mere politeness on the part of the college graduates questioned, they were given an opportunity to state whether they were dissatisfied with any aspect of their college program. Since the accelerate and non-accelerate of each pair were in similar programs, any differences in their responses would seem to be related, not to the curriculum, but to the attitude of students who accelerated as compared with those who did not. When asked whether, in looking back on their college education, they wished that they had changed the direction of their studies, 17.02 per cent of the accelerates and of the controls answered in the negative; 34.04 per cent of the accelerates and 38.30 per cent of the controls indicated that they wished they had taken a broader education; and 8.51 per cent of the accelerates and 12.77 per cent of the controls regretted that they had not had a more specialized education. There were 12.77 per cent of the accelerates and 23.40 per cent of the controls who wished they had selected a different major; 19.05 per cent of the accelerates and 23.40 per cent of the controls wished they had taken "more useful" courses. None of these differences are significant. However, 25.53 per cent of the accelerates, as compared with 44.68 per cent of the controls, listed courses they wished they had taken: this difference is significant at the 5-per cent level of confidence.

A GENERAL hypothesis was established on the basis of the major previous studies in the field of acceleration: Academic achievements do not decrease; there is, however, a decrease in social participation. Students do not later regret having accelerated. This study confirms only the observations that academic achievements do not decrease and that students do not later regret having accelerated.

It was noted at the start that because of differences in institutions, educational levels, or techniques, the results of this experiment might differ from those of others in the field. Although sweeping generalizations cannot be warranted on the basis of the present study, there seems to be evidence to refute the assumption which may have been created by Pressey's finding that acceleration in college was not accompanied by social leadership. Because obtaining college credit by examination rather than by carrying extra-heavy class loads provides a student with more free time, accelerates in this study may have had the opportunity to join several clubs and to hold class offices as often as the non-accelerates did.

Short Contributions

An Academic Venture in the Humanities: Self-selected Honor Students

Over the past two years there has been developing at Phillips University an approach to the problem of challenging the better-than-average student to make an effort commensurate with his capacity. This approach has been uncovered more or less by accident. However, its results have been so gratifying that the author is retracing its development for those seeking a relatively simple answer to a similar problem.

In the fall of 1957, a two-semester course in the humanities was required for the first time of all Juniors. Two one-hour periods weekly were devoted to literature, and one hour to music and art. This was one of a series whose purpose was to provide a common experience for all students in specific courses from every division. There was opposition from both students and faculty because they felt that the course demanded time which could be used to better advantage in the major field. Despite the best efforts of the faculty chosen to present the course, it met with only moderate success.

Opposition to the course was still keen in 1958–59. It generated an atmosphere of disapproval among most of the students when efforts were made to conduct class discussions. To provide a friendly atmosphere for those who were willing to participate freely in this type of lesson, all students averaging *B* or better on literature at mid-semester were invited to meet once weekly for a two-hour discussion section. Most of those invited accepted; two sections were formed and, almost by accident, there began what has developed into a very interesting academic adventure.

The students in this section were expected to read more extensively than those in the regular session. Usually the instructor acted as discussion leader. His responsibilities were to provide the background for the selection under consideration and to open the discussion by a question directed to the group as a whole. If the works dealt with were outside the instructor's competency, colleagues from the related fields were invited to serve as discussion leaders. They were unfailingly obliging.

The students were enthusiastic about this class, and most of them did better work than they had done in the regular session. To present

the situation fairly, there were certain advantages in belonging to a special section. The students felt they were a special group; they were spared the tediousness of the frequent quizzes given on assigned material; they had special library privileges in the use of reserved books; they met under informal conditions, not in a classroom but in a special room in the Student Center; and they were not required to take the final examination. Since the discussion periods were an addition to the instructor's normal teaching load, they were grateful for what seemed to them a sacrifice.

A student might withdraw to return to the regular sessions—none did—or a student from the regular session might join the discussion section as soon as he qualified. There were additions both at mid-term and in the middle of the second semester, though some who qualified elected to remain in the regular session.

In the fall of 1959 the mood of opposition had changed to resignation. It no longer seemed necessary to continue the special sections. From the first, however, some of the students made it plain that they expected the continuance of what they called "the honor group." Accordingly, at mid-semester, about twenty who were found to be eligible out of a group of eighty-five were extended an invitation to join the special section and were organized into two groups of ten each.

Almost immediately the practice of using students as discussion leaders was begun, and this has proved to be one of the most fruitful discoveries so far. Luckily, the early volunteers set very high standards of performance. As a result, the role of the instructor has become progressively less important. In general, the student leader is competent to handle almost any question which may arise, enabling the instructor to relax and enjoy the exchange of ideas—and the words *relax* and *enjoy* are used advisedly.

This approach is the essence of simplicity, has involved no cost, and is one of the most exciting experiences the instructor has ever had in teaching. Though these two classes are conducted in addition to a normal teaching load, they are definitely not a chore but a pleasure. The use of the same material by both groups has not led to boredom, either, since the tenor of discussion varies. The instructor leaves a two-hour session stimulated by the interplay of ideas and enriched by new insights supplied by alert minds representing every major department of the school.

After the departure of the students who had qualified for the special group, a new group of contributors emerged in the regular sessions who had been reticent up to that time. Some of these joined the special group at the end of the semester. Again, there were additions at the middle of the second semester—this time, however, they were chiefly from the ranks of new recruits. The amazing thing has been the number of students capable of outstanding work who have lacked the inspiration

to do it. The disappointment they cause is compensated in part by the gratification of seeing quiet individuals open up in discussion sessions to reveal an intelligence whose quality had thus far gone unnoticed.

In passing, it is hard not to observe that a system which permits graduation from most schools on the accumulation of a fixed number of credits of a certain quality puts the premium on just this—the accumulation of credits. Yet there are some students—greater in number than this instructor suspected—who are willing to rise to a challenge and work more nearly in proportion to their ability.

In the sections this year, for example, no preparation beyond an understanding of the assigned selection is required, but few students are content with that. In the course of the discussion, one hears constantly "In such-and-such a work by the same author," or "One of the critics I read said so-and-so." In justice to the students, it must be stated that they do not accept the critic's verdict as final but merely present it for the consideration of the group. This extra effort should be, and is, pleasing, though there are occasional twinges of conscience over the gap between the *B* of the special group and the *C* of the regular session. You see, the instructor, too, is a captive of the system.

Perhaps the most distinctive characteristic of these classes is a willingness to experiment. For example, students do not like to have assignments made well in advance. They prefer to be free to omit material from the text or bring in new material which they consider superior to that selected by the anthologist. This has happened several times, and their judgment has proved to be excellent.

Perhaps the most difficult task of the instructor in such a course is to stay in the background. It is hard to see an opening for a comment and hold back long enough to give a student time to supply it. Over the months a completely informal atmosphere has developed, and the weekly meetings more nearly resemble informal conversations in which the instructor is included than conventional class discussions.

The special group has been a fruitful source of suggestions for improvement of methods in the regular sessions, though some effort was required to elicit them. In fact, to oblige the members of this group to focus on the problems of their erstwhile classmates—they seemed to have lost interest in them as soon as they left them—it was necessary to bring them back into regular sessions for a week. Immediately after the first class, they made the suggestion that these sections be divided into discussion groups at the next meeting. They promised to act as discussion leaders. Accordingly, we divided one section into two groups, and the other into three groups, of about ten each, several members of the special group serving as leaders.

Both regular and special section members seemed delighted at the results, and the members of the regular sections asked that it be continued. In fact, one very intelligent but hitherto uninspired young

man took the instructor to task for giving them what he considered second-class treatment while according preferential treatment to the special groups. They were all paying the same tuition, he said. The week after the departure of the special groups, this young man was given one of the discussion groups to lead. A member of the special group, making up an absence occasioned by a required field trip, remarked afterward that the neophyte had done a good job as leader and the entire group had participated actively in the discussion.

For the past month the students who are still in the regular classes have been divided into small one-hour discussion groups under the leadership of one of their own members. Already these sections show signs of developing real discussions, and most students seem to participate actively. Observed from a distance, they give the impression of a group keenly interested in the discussion; but when the instructor joins them, they become self-conscious. Perhaps the remedy for this is to follow the advice of the special group—divide the regular class sections of forty into four discussion groups, each using a member of this year's special group as leader. Coming from students who have had experience with both types of classes, the idea is more likely to be good than bad.

One consequence of an experience such as this is that it is hard to settle down to routine again. The instructor is swept along by the eagerness of the students to alter the old ways or try out new ones. They all have ideas as to how classes should be taught or how they should not be taught. The enthusiasm which a new approach engenders will compensate for an occasional failure, so little is lost by giving them a free rein. If it is a genuinely co-operative effort, all will enjoy it, and the chances are excellent that it will be worth while.

S. HARVEY CLARKE, *Phillips University*

A Deliberate Radicalness

Instead of continually patching old academic garments, we must someday cut new ones. In so doing, we might as well measure the student and cut them to fit him. This is a proposal for a new suit of clothes.

The grading system is something which, like the weather, everyone complains about but no one ever seems to do anything about. Tied closely to the grading system is the system of attendance, cuts, honor points, drop dates, the Dean's list (and the Dean of Men's!), and a host of other things that require endless tabulation, calculation, and more than a little dead reckoning. Why?

If the purposes of college education are to equip the student to be a better citizen, a more competent technician, and a credit to the school, then it is time to re-examine the fundamental assumptions behind many

of the aforesaid practices. We may be hard pressed to find any fundamental assumptions worth examining. The basic reason for all of this grading paraphernalia may well be merely that since the oldest living faculty member can recall, things have always been done this way. What way? It depends on the school.

Most schools give grades ranging, with varying numbers of steps in between, from *A* to *F*. These are further complicated sometimes with pluses and minuses, which give some people a feeling of greater precision, but have never been demonstrated to be actually more precise. Some schools used to grade on a percentage basis, and recorded such apocryphal grades as 89, 76, and so on. Once the teacher has chewed his red pencil long enough to conclude that specific students are worth *A*'s and *B*'s and *C*'s, the registrars assign numbers to these letters, in accordance with a code arbitrarily determined at each school, and statistically and mathematically indefensible at all of them. The going value of an *A* ranges, among the schools I am acquainted with, from a low of 3 points to a magnificent inflated high of 8. Obviously, there is no gold standard here.

In addition to all of this, we must also account for the variations in the way students terminate the course, whether WP or WF, Inc. or In Process, Audit or Half-Credit. Some wags have even suggested double-entry bookkeeping and the rating of certain colleagues' courses as debits! If anyone ventures to demand a more rational explanation than mere institutional habit for this elaborate procedure, someone is sure to maintain piously that it tells you a great deal about the student. I am sure that it does so with no reliable degree of accuracy, and that even if it were consistently employed, it would tell us more than we want to know about some phases and not nearly enough about others. Besides which, it costs a lot of money to keep this charade going, and in this day and age I don't think we can afford it.

The arguments advanced concerning decisions about grade-point averages to be maintained, cut rules, drop dates, and the like, range from the punitive to the patronizing, and from the pecuniary to the patrimonial. Neither the "treat 'em rough" school nor the "let's all hold hands" school can prove the validity of their positions, because these positions are not logically derived from clear assumptions. Rather they are personal emotional reactions to the educational events which each teacher has experienced, and the projection of his own democratic, patriarchal, or authoritarian personality structure. None of this has much to offer as a guide for directing students, although many otherwise intelligent persons are convinced that *their* reactions do.

Why not cut through all of this and start over, setting down the minimum possible machinery, and then adding only enough to make the whole thing operate graciously and smoothly?

Before we wish to call any man educated, that is, give him a degree from our school, we want to know that he is competent in a number of

subject-areas. What these should be is a large study in itself but substantially a different question from the narrowly procedural ones which this paper apprehends. Let us assume that some body of material is relevant to specific college degrees, and that perhaps even the present list of courses and the total number of hours is an adequate definition of education. If you question this, remember, this is your question, not mine. I'll only try to answer mine.

If we want to know whether people are on the whole competent, this can be judged by listing the courses in which they have been judged competent. While there may be pedagogical reasons for preferring them to take one course before another, their competence, ultimately, should be something not measured by time. In other words, a man who is competent in calculus should be a man whom tests have shown to be competent in calculus, whether he took one week, one year, or ten years to achieve this measured competency. If this is the case, and I strongly think it is, there is no reason which appears valid for expelling him from the elect because he failed this course once, twice, three times, or four, so long as he ultimately achieves the requisite proficiency.

Before anyone screams with alarm, please recall that this is exactly the procedure followed by some of the best graduate schools in the country with respect to language examinations, preliminaries, and, in the final analysis, even dissertations. One miss does not mean you are out; it merely means that you have not connected yet. Why not do the same with undergraduates? Simply make sure that good and reasonable standards are maintained in all courses, decide what courses and how many are required, and keep count. When the student has shown competency in enough courses, give him a degree.

Two problems occur immediately, but each suggests its own solution. What about the students who want to "sit in" but not take examinations, or the students who drop out? These students, like those who try all the examinations and show insufficient mastery, could be graded *ATT* (translation: attended) or *X* or *Y* or *Z*. Sophistication in communication is the ability to ignore differences in nomenclature. Those who are competent could be graded *COMP* (translation: competent, or complete, or comprehending, or complacent). The point is, they made it. There should also be some designation for the rare student who really excels, and any simple designation in any conventional language will serve here also. If we want to add dignity to the accomplishment, we might go back to Latin for a word such as *summa*, and this might not be a bad idea.

What it boils down to is simply that we can record all of the really necessary information by classifying students in three categories: (1) those who have been exposed to courses, (2) those who have become competent in them, and (3) those who have mastered them.

If we do this, it will immediately lift a heavy burden from the registrar's office, and might even obviate the IBM installations. (Coffee and coke

machines would be more congenial and just as educational.) All we need to know about any student is what he took, what he "passed," and whether he excelled. The rank order becomes a simple counting of the number of course-hours he has qualified in and those he has mastered. All the complicated weighting and dividing, which is nonsensical statistically anyway, can be avoided. A quick tabulation tells all we need to know. It would be an afternoon's work to find out which student made the honor roll, or which one shall carry the college seal, or who can't go active or play on the team.

Now for something more radical yet, meaning, let's examine the roots, yea, even the roots of all evil. At the same time that most small schools are worrying about their standards, they are also complaining about the loss of funds which accompanies the flunking out of students. I say flatly, why flunk them out at all? Lest you think I have lost all my standards of education let me say that students have never accused me of being overly easy, and I'll gladly match my academic credentials and accomplishments with those of the toughest "treat 'em rough" senior professor of the lot. My point is simply this: We should be concerned with what students have learned, and not with how long, or how many times through, it took them to learn it. Surely everyone has had the experience of seeing some woebegone flunkee come up and say, "Well, Doc, I know my grade won't show it, but I enjoyed this course, and I want you to know I really got a lot out of it." So, if he thinks he got his money's worth, why hate him? You don't have to give him a degree, you understand, because that would be a lie. On the other hand, if he finds your lectures entertaining, so much the better—they are certainly more uplifting than most TV shows; and if he pays his tuition, he helps support the school just as much as the leader of the honor roll does. Probably more, because the chances are that the honor roll, like the basketball team, is subsidized.

Why doesn't this student with the wide eyes and the empty head just audit? Well, under the proposed system, when he fails to pass the final exam, audit is precisely what he has just done. And there seems to be no good reason why he cannot do it again and again, so long as he finds it interesting. One stipulation only should be made at this point. When he repeats a course for a second or third time, whatever grade he receives in the latest attempt stands. In other words, he can go from merely attending to demonstrating satisfactory competence to final mastery, if he wants to spend three semesters doing it and pay tuition three times. Theoretically, this might make him a top graduate in twelve years, if he had enough determination. However, it is equally possible that he might rate as competent the first time and sink back to audit the second. The registrar's record should not be a "best ball game," but rather a running score.

If this system were employed, it would remove all worries about when

a student should be allowed to drop a course. At any time up through the final examination he can walk out if he wishes. He just does not get credit. Presumably, he is adult enough to decide when to leave. If not, the surplus of labor now devoted to extra record-calculating and -circulating might be spent in some genuine counseling instead of the academic rituals which at present pass for advice.

WILLIAM BRUCE CAMERON
Bradley University

Some Features of Auto-instructional Devices

In an earlier paper, the author pointed out that the term "teaching machine" was a misnomer because auto-instructional devices are often not machines, and that even when machines are employed, the essence of the device is the program which it contains.[1] It was thought that a term such as "auto-instructional" should be used, since it is more accurate and less emotion-provoking. An auto-instructional device is the means whereby systematically programed material is presented to the student. Such a device may be an elaborate electronic unit or simply sheets of paper bound together in book form. The purpose of the present paper is to discuss some of the kinds of devices now being used in educational research and practice.

Before considering present-day machines, we should acknowledge that more than thirty years ago S. L. Pressey designed a machine which was similar to the machines of today. This early machine was a multiple-choice device designed for the automatic self-scoring of tests. A student using this device to take a multiple-choice test pressed one of four buttons to indicate his answer to a particular question. If he was correct, the next item appeared; if he was incorrect, the error was scored, and he made another choice, continuing to do so until he was correct. Using similar principles, Pressey designed a simple punch-board device which he and his students used to study the teaching properties of self-scoring tests. The Pressey punchboard was a card about three-by-five inches in diameter and one-half inch thick. On the face, the punchboard had thirty rows of four holes. A key sheet inside the card had holes opposite the right answer for the particular test being used. The student indicated his response to a test item by punching a pencil through one of the four holes for a particular item. If the hole punched was the correct answer, the pencil went deep into the card and made a large hole in the answer sheet. If the answer was wrong, the pencil broke a small hole in the paper but did not penetrate deeply.

If his technique did not produce an "industrial revolution in educa-

[1]Robert E. Silverman, "Auto-instructional Devices: Some Theoretical and Practical Considerations," JOURNAL OF HIGHER EDUCATION, XXXI (December, 1960), p. 481.

tion," Pressey's devices did serve as the forerunner of the multiple-choice devices of today, and his techniques have remained sufficiently viable to stimulate one of the current controversies in auto-instructional programing methods. Advocates of the Pressey methods recommend the use of multiple-choice devices. B. F. Skinner, the leading exponent of the present-day auto-instructional technology, recommends that the student's responses should be constructed rather than selected from a group of alternative choices. Skinner argues that the purpose of teaching is to develop recall rather than recognition. He further asserts that the presence of a plausible wrong response among the available choices may impair the learning process by strengthening undesired responses.

Obviously, the issue of multiple-choice responses versus constructed responses cannot be settled by debate; it is an empirical issue, and must be treated experimentally. In the absence of convincing experimental evidence favoring one technique over the other, both continue to be used and studied. However, the majority of auto-instructional devices do employ the constructed response. This is due, in part, to the comparatively large number of programers who follow the lead of Skinner. Skinner's position is logical, and its basis in the experimental psychology of learning is very persuasive.

Another difference of opinion regarding machine design stems from the question whether auto-instructional devices which present the material in a fixed sequence of steps are adequate to meet the needs of a variety of students. According to Skinner, a carefully programed sequence does permit flexibility in terms of the speed or rate of learning. The quick learner simply proceeds through the program more rapidly than does the slow learner. A different opinion is given by N. A. Crowder, who suggests that flexible or "intrinsic" programing might be advantageous in that each program is adapted directly to the individual student's present state of knowledge.[2] An adaptable program provides branches which depend upon the student's response to a particular set of items. A branching program is far more difficult to present than a standard program. If a hardware device is used, a computer with a complex memory and indexing circuit are necessary. If a student has trouble with a particular item or set of items, the computer selects a branch of the program designed for that symptom of trouble. Although this is an expensive and complex technological problem, some computer-type machines are currently available for research and application.

In some cases where a branching type of program is desired, the technological problems are simplified by using a scrambled textbook in which the presentation is relatively simple. Crowder has presented examples of intrinsically programed textbooks in which the student proceeds on the basis of his response to each item. When his response

[2]"Automatic Tutoring by Means of Intrinsic Programming," *Automatic Teaching: The State of the Art*, edited by E. Galanter (New York: John Wiley and Sons, 1959), pp. 109–16.

is correct, he is directed to the next item in the series. When his response is incorrect, he is directed to an explanatory item and is then instructed to return to the previously failed item to try again. Crowder's approach is clearly different from Skinner's in depending less on the concept of successive approximations and more on the automation of the human tutoring process. Crowder's programs attempt to imitate the flesh-and-blood tutor, whereas Skinner's programs are based on a new technology of education derived from laboratory principles of learning.

The branching technique and the technique of providing explanations may appear to have certain advantages in dealing with the problem of individual differences in learning ability. If there are advantages which can be experimentally demonstrated, then auto-instructional techniques should incorporate these methods. At present there are few devices employing branching and explanations. The computer-type devices are too expensive for immediate adoption by schools or colleges, and certainly the available evidence does not demand their use. The scrambled books, although not expensive, tend to present problems of packaging and presentation; they are awkward to use. Perhaps the problems will be solved by packaging programs in small lesson units arranged so that branching can be effected by simply deciding which lesson should be taken next in the sequence.

In the early design of auto-instructional devices, particularly those used by B. F. Skinner, provision was made to repeat a set of items a second time. Correct items were dropped out on the second cycle, and only those items missed on the first cycle were presented. This item-drop-out feature made the device complex and expensive. It was this provision that tended to emphasize the importance of fairly elaborate machines in the early stages of auto-instructional research. However, the more recent devices do not contain the item-drop-out feature; it was found to be unwieldy and generally not necessary. If the program consists of a carefully graduated sequence of items, the frequency of student error is minimized, and the context in which one item follows from the preceding becomes all-important. The context factor makes it undesirable to present items in a new order, out of context. The minimizing of errors precludes the danger of repeating wrong items. Most programers agree that in a good program student errors should be less than 10 per cent.

The foregoing discussion of auto-instructional devices emphasizes the importance of programing. The devices are, as has previously been stated, simply means for presenting systematically programed materials in the form of problems which require some action on the part of the student. The programed textbook is as much an auto-instructional device as is the elaborate computer-controlled machine.

All auto-instructional devices control the sequence in which the items are presented. Some devices present the program in a fixed sequence of steps. However, other devices provide for branching, contingent upon the

student's answers. It follows that branching devices are usually also multiple-choice devices. To construct an automated branching device that scans a constructed response and then selects a particular item for presentation would demand enormous complexity and, for the moment, prohibitive expense.

The branching devices can, and sometimes do, provide the student with explanations regarding why he was wrong, if he was wrong. The fixed-sequence devices of the Skinner type do not include this provision, since they are based on the principle of successive approximations with minimal errors.

All devices, whether they provide for branching, fixed sequences, multiple-choice responses, constructed responses, or item repetition, make use of certain common principles: (a) they all contain the feature of immediate re-enforcement; the student is informed with minimal delay whether his response is correct or incorrect; (b) they all permit the student to proceed at his own pace; (c) they all require active student participation; (d) they all require careful programing.

ROBERT E. SILVERMAN, *New York University*

AND ONE HUNDRED YEARS FROM TODAY . . . [1]

(*Teaching machine developed by Harvard professor soon to be in mass production.—News item, 1960.*)

VALEDICTORIAN: ". . . and this farewell would not be complete without expressing our debt of gratitude to a dedicated faculty. Oh, I know that it is the fashion to deprecate the value of personal contact as a valid part of education, and to say that a professor on tape or film is just as good as the real thing. But what course on film can offer the thrill of pulling the professor's lever and coming up with the right answer on the first try? What reel of tape can match the enthusiasm of even the newest instructor, fresh out of his factory carton? What canned pedagogy can equal the patience of the dedicated teacher whose relays will propound the same question over and over and over again until it is correctly answered? No, we will never forget our mentors—L. C. Smith-Corona 607X, whose humanism enriched us all; or the winking dashboard of Remington Rand LV–44, when he would relieve the classroom tension by rolling up two lemons and a cherry; or the good sportsmanship of Univac 402 (transistor model) when we hid his fuse during Hell Week. These memories and more we take with us as we bid goodbye to our Alma Motor and face the challenge of . . ."—M.L.

[1]Martin Levin, "The Phoenix Nest," *Saturday Review*, XLIII (August 20, 1960), p. 6.

Academic Round Table

Is Consolidation among Textbook Publishers a Threat to Authors?

Has consolidation gone far enough to have become a serious matter?
If it has, is freedom of expression restricted for potential authors, and freedom to read for students who might have profited from their writings?
Have the university presses a place in textbook publishing in the current state of the industry?

THE question posed in this month's "Academic Round Table" and the perhaps even more important questions underlying this topic lead one into fairly choppy waters. Emotions tend to obscure the issues, and I am sure someone like me who is personally engaged in the textbook-publishing business is by no means immune. However, working as I do for a company that has been involved recently in consolidation, I welcome this opportunity to bring out a few basic facts that have been mislaid, and also to venture a few personal views.

First, on a strictly quantitative basis, no college author has any reason whatsoever for seeing in recent consolidations an over-all reduction in opportunities to publish. Quite the contrary, since for each publishing house that has been subtracted from the total list of college publishers by consolidation in recent years, more than one new house has entered the college field. In 1950, forty-six companies were active in college publishing; in 1959, after several widely publicized mergers, the number had grown to fifty-one. In other words, the college author today, after a series of subtractions and additions, has a 10-per cent bonus in the number of publishing houses available.

Furthermore, let's take a look for a moment at what actually happens following a consolidation. There somehow seems to be an assumption that if Publisher A acquires Publisher B, the result will be a new publication list of about A's traditional size, modified a bit by ingredients and flavors from B's list. This assumption is wildly far from the mark. The new list will be more like A plus B, plus even an additional X factor resulting from the increased facilities of the new firm. Statistically, even without the additional firms, the odds in favor of acceptance of a given manuscript by the consolidated A+B house are at least as good as they were in the case of the separate A and B firms, and I suspect they are better.

It is probably safe to assume that the question "Is consolidation among textbook publishers a threat to authors?" springs at least in part from a deep-rooted suspicion of bigness per se. This is completely natural in a country whose people have abhorred empires, fought trusts and monopolies, and consistently had an attachment for the little fellow. And since the whole emphasis in the process of college education is on the individual, this suspicion of bigness is probably automatic to a certain extent as college teachers contemplate consolidation among publishers.

Let's examine this automatic response. Is it perhaps true that colleges are caught up in a set of inconsistent and outmoded attitudes toward themselves similar to those they hold in regard to the textbook publisher? Traditionally, so goes the American image, the college should be a small community of scholars and students seeking after truth and knowledge, a community insulated as much as possible from the management mechanics and financial considerations that make the community operant. Most innovations toward "efficiency," such as large-group instruction and the introduction of a wide range of teaching devices, have been resisted even in the face of the utter impracticality of operating college education in accordance with the traditional image. I recall with what suspicion the dramatic growth of large publicly supported universities has been regarded in the last two decades, and I see evidence that this suspicion persists to this day in spite of the demonstrable fact that some of our very largest universities are among the country's best. I am not by any means suggesting that the small college no longer has a place in the scheme of things; but I do suggest that because of enormous pressures there is a national trend toward large-sized university systems and also toward more efficient management of every educational institution, whether large or small.

Similarly, so seems to go the traditional image, the college publishing house should be a relatively small community of scholarly men dedicated to and pursuing excellence in the written word, all in an atmosphere of serene bibliophilism. The image recognizes that somehow these book-lovers have to make a living from their trade, but it also assumes that this uncomfortable aspect will somehow take care of itself. This picture is overdrawn, I realize, but I submit that elements of it persist in spite of the demonstrable fact that some of the best publishing in America today is conducted by very large, aggressive, tightly managed business corporations. While there is, and I think there always will be, an important place in the scheme of things for the small publisher, real and insistent pressures seem to be leading to more and more large-sized publishing units, just as they are leading to more and more large-sized universities.

Let's abandon our images as outworn and unreal, and let's try to judge the question of size, whether of a college or of a college publishing house, on individual merits. Some small colleges and some small college publishers are doing fine jobs, and the same is true of some large universities and some large publishers. To survive, a small publisher must be, and is, as much concerned as a large one with economic operation. To survive, a large house must be, and is, as much concerned as a small one with the success of each individual title. College publishing is a personal kind of business in the key areas of author-editor and representative-customer relations, and neither the small nor the large house has a monopoly of imaginative editors or able representatives. Whether the advantages of a large house in point of wide range of specialized talents and distribution facilities are offset by particular strengths in a small house depends on a host of considerations—objective and subjective, and both equally real—in each case.

With increased enrollments, the college publishing industry is prospering, which encourages a confident, even optimistic, climate for enlarging the number of commitments. Since there are fifty-one large and small publishers in heated competition with each other, and fifty-one large and small editorial

hoppers to be filled each year, the author is assured of a raptly attentive ear whenever he visits Publishers Row. The college author, it seems to me, has never been in a more favorable position than he is today.

ALDEN H. CLARK
Holt, Rinehart and Winston, Inc.

THERE are probably as many views of what university presses should publish as there are members (fifty-three) of the Association of American University Presses. However, it is generally recognized that the primary function of a scholarly press is to add to the dissemination of knowledge by publishing monographs for the specialized, scholarly audience and more general works interpreting the fruits of scholarship for the educated layman.

In general, university presses have not engaged extensively in textbook publication. In 1949, following a survey of university-press publishing, this finding was reported:

> The chief reason that university presses had not engaged in more textbook publishing was the wide-spread belief on their part that this task is best left to the large commercial houses which are equipped with marketing facilities far beyond the means of most presses. This does not mean that university presses had hesitated to enter this field when they felt that they might appropriately specialize . . . or when they believed that they could perform useful experiments not likely to be undertaken by commercial houses . . . . Nor did it mean that a press would refuse to publish a textbook produced on its own campus and designed primarily to fulfill a local need nor would it neglect the subsidiary text market for many of its general scholarly publications. But it did mean that with these exceptions, no press at the time of the Survey appeared to be engaged in a program of general textbook publishing as such.[1]

[1]Chester Kerr, *A Report on American University Presses* (New York: Association of American University Presses, 1949), p. 108.

It seems likely that this trend of thought is continuing. In 1948, the Kerr survey revealed that 11 per cent of university press titles could be classified as textbooks, although a supplemental survey made in 1955 showed that only 5.5 per cent could be so classified.

What kind of textbooks are typically published by university presses? In a recent statement, Harold E. Ingle, director of the Johns Hopkins Press and president of the Association of American University Presses, classified them as follows:

> First, there are the purely scholarly books, neither designed nor written nor published for textbook use, but which are eagerly accepted and adopted as textbooks in specialized fields for want of a suitable textbook.
>
> Second, the university presses have published a number of textbooks which were, from the start, designed, written, and published as textbooks to fulfill a need in a specialized field where there was a clear-cut need, but still a potential market too small to attract a commercial textbook publisher.
>
> Third, the university presses have launched a number of textbooks as experimental texts to aid a new approach or organization in teaching a particular subject. In many of these cases the odds are high against the likelihood of success and profit.

Of these categories, by far the largest in number of books is the first one. There are indeed few scholarly books which some teacher somewhere will not assign his class as a text. However, the importance of this kind of sale in the over-all economics of textbook-publishing is minimal. This is true as well of the other two categories; the books published in both of them in a given year will scarcely equal the sales volume of one basic text in American history, for example.

Because of the rapid expansion in the publishing of high-quality paperbacks, outstanding books which were

formerly too expensive to be assigned as textbooks are now being widely adopted. University presses share in this kind of textbook sale to the extent to which they are engaged in the publication of paperbacks, but this is a special factor outside the main stream of textbook-publishing.

What of the future? There is no discernible trend on the part of university presses to enter the mass-market textbook field. They recognize their responsibility to publish the experimental, academically worth-while, but economically highly uncertain textbook, within the larger context of their responsibility to serve scholarship. It may be that with the trend toward fewer and larger textbook-publishing houses, more and more such books will become the exclusive concern of university presses. It can fairly be said that the presses are justifiably proud of their record in publishing the unusual in textbooks; and if occasionally the specialized book turns into a lively seller, virtue is twice rewarded.

THOMAS M. SCHMID
Association of American University Presses

IN A recent issue of the *Wall Street Journal,* Bennett Cerf predicted that four or five firms would dominate United States book-publishing within the next ten years. Should this situation materialize, it would be serious indeed, not only for the textbook author but for the writer in general. At the present time, however, several factors offset the impact on the textbook market of the recent wave of consolidations among textbook-publishers. One of these is the entrance of a number of trade publishers into the college field. Well versed in population and college-enrollment statistics, several prominent publishing houses have apparently decided that the potential college market is too good to be ignored. This means, of course, that they are faced with the task of building a fairly complete list of college textbooks. Another factor is the recent trend among established textbook-publishers to set up independent subsidiaries, which also must find and publish a substantial number of textbooks in short order. Finally, there is the fact that many publishers have seemingly abandoned the traditional one-author-per-field policy. It is not uncommon today for a publisher to have two, three, or even more titles that compete with each other.

Taken together, these various factors are responsible for a situation in which it is probably easier for the textbook-writer to find a publisher than at any time in the past. Let the writer announce that he has a manuscript (or some fraction thereof) and he will have invited a barrage of long-distance telephone calls, visits from publishers' representatives, and special-delivery, air-mail letters entreating him to make no commitments until the particular publisher has had a go at his material.

There are, however, aspects of the publisher-author relationship that should be of serious concern to academicians. The contracts between author and publisher, for instance, typically provide that the author will furnish a satisfactory manuscript, which the publisher agrees to publish. Final judgment as to what is satisfactory is reserved to the publisher, who usually relies upon the advice of persons to whom the manuscript has been sent for a reading. If one or more readers render an adverse judgment, the manuscript is returned to the writer for what may be substantial revision.

The disturbing feature of this process is that the fate of a manuscript that may have been years in preparation is frequently determined by a

reader who may not render a representative judgment, who has probably been selected by a haphazard process, and who may be more interested in convincing the publisher that his comments warrant the fee he is to receive than he is in making an analysis that will be helpful to the writer.

Since many publishers will sign a contract with a writer after seeing no more than a chapter or two and an outline of a book, a writer may spend years on a manuscript only to find that the completed work is unacceptable for publication after a reader has given an opinion. The number of manuscripts that now languish in oblivion is unquestionably large, and an appalling amount of academic time has been wasted.

There is no obvious solution of the situation described, but the following suggestions may merit consideration: (1) a publisher-author contract should be regarded by the publisher as a firm commitment to publish; (2) the contract should give the author more weight than he has at present in the final determination of when a manuscript is in a satisfactory state; (3) the function of the person reading a manuscript that is already under contract should be to help the writer rather than to judge publishability. In short, the publisher should not enter into a contractual agreement unless he is willing to concede that the writer has the ability to produce a satisfactory text and the capacity to judge when his product is ready for the market. Far too many contracts are now signed by publishers simply to keep the writer out of somebody else's "stable" or on a long-shot hunch that this may be the writer who will come up with the textbook that sweeps the market. Long-shot hunches, of course, rarely pay off; and when the publisher finds that he has an adequate rather than an exceptional manuscript on his hands, he may be inclined to regard the work as unsatisfactory.

Not all publishers follow the procedures recommended here, and the seasoned writer who knows his way around the trade is not likely to find himself with a surprise rejection of a finished work. The younger writers, however, are usually overimpressed by the fact that a publisher is offering a contract, and they frequently commit themselves without an adequate understanding of the nature of the commitment.

SANFORD COHEN
Butler University

JUNE, 1961 (Deadline, March 15)

The Wandering Scholars: Who Does the Work at Home?

Is the home department merely a place to pick up mail?
What has become of the community of scholars devoted to a common discipline?
Is an excessive number of leaves of absence interfering with major educational responsibilities?

OCTOBER, 1961 (Deadline, July 15)

How Much Student "Life"?

Are the non-academic activities of students receiving more administrative attention than they need or deserve?
Has the elaboration of both academic and non-academic counseling proved to be worth its cost either in dollars or in energy expended?
Is the pressure for increased counseling partly due to the recruitment of students from families that do not prepare them for college responsibilities?
Do extra-curricular activities endanger scholastic success?

Editorial

Intellectual Freedom in an Age of Organization

Our waking hours are filled with problems. They may even invade the hours reserved for sleep. Some persons are inclined to deny such a preoccupation with problems, insisting that certain irrelevancies (quantities of nothingness) become insinuated into our routines. They are doubtless correct. Yet, if we were to list a day's activities, virtually all could be related to problems, including the problem of getting sufficient relaxation to maintain emotional stability.

The point of taking note of this state of affairs is that we solve our problems by putting in order phenomena which we perceive to be related to each other and to our purposes in an unsuitable or disorderly manner. The ordering process, or problem-solving, is the application to phenomena of criteria chosen for that purpose. Intellectual freedom may be defined as opportunity to order phenomena related to our own personal living in a manner that accords with the level of understanding which we are able to achieve and apply.

Our intellectual forebears of the eighteenth century left us a heritage of belief that the only barriers to intellectual freedom were the social institutions handed down from the Middle Ages. That the individual might be free, these anachronisms must be destroyed. The revolutions of the eighteenth and nineteenth centuries achieved a considerable measure of success in this effort. The century preceding the Second World War was one in which the liberal and the ideal in social thought were considered largely synonymous. The individual should be, and was, substantially relieved of the social compulsions of the *ancien régime*. This achievement, one of the noblest in human history, was postulated upon the unstated proposition that the individual, if left alone, would be truly free—that restraining influences would be both authoritative in character and external to the individual.

The mid-twentieth century epoch of the "organization man" shows us that this traditional assumption is not necessarily warranted. Not that all external restraints upon individual freedom have been vanquished to create for us an egalitarian society based upon the simple dignity of the common man. Far from it. But we can now begin to see that even if such external restraints were reduced to a minimum, individual freedom might still be a frail and insubstantial thing. The mass culture has its compulsions, both blatantly external and insidiously internal to the individual man. Its effects upon the intellectual freedom of the individual are worthy of re-examination.

The basic fact which creates the need for this re-examination is that

we live together more closely than ever before. There is the simple matter of the ratio of numbers to area which indicates that we live in closer physical proximity to our fellow men simply because there are more of us in the same space. Moreover, the revolutions in transportation and communication multiply the effect of physical proximity, because we see and hear from our fellow men far more than ever before. We are in contact not only with those who live in our immediate community, but with our fellow men from all over the world. A commonness of outlook is the inevitable result even if it is evidenced primarily by a keener awareness of differences which before were not even known. Thus a mass culture has been created, more fully achieved at present within a country such as the United States, but clearly on the way to becoming world-wide.

But why, we properly ask, should a mass culture encroach upon individual freedom when the structure of the society is democratic, as it is among the nations of the Western world? Again, simply because the attitudes and points of view of others are more fully known to us, and inevitably inhibit to some degree any tendency to think otherwise. When life was lived in greater physical isolation, there was less incentive to develop what we now call the behavioral sciences to explain group behavior and the mutual relationships between individuals and groups. Now we know more about the individual's need for security and acceptance by his peers. He can achieve these desirable states only by measuring up to prevailing habit patterns of style, social and political attitude, and the like. When the individual does measure up and thereby achieves social acceptance, he has, in effect, surrendered individual choice to social compulsion, whether or not be realizes what he has done.

Furthermore, on a strictly personal basis, we know that even when the individual develops his creative impulses into unique points of view, he will inevitably approach new situations within the framework of his own established thought patterns. These mental habits of ours make it possible to meet life's demands by enabling us to act when neither time nor energy may be available to rethink new situations, but they become fences to restrict our freedom in meeting these situations or rethinking old ones. Modern society and modern social science put individual freedom within a markedly different context from that in which it has traditionally been supposed to exist. It is even possible to question the meaningfulness of the term "individual freedom."

How is higher education affected by these considerations? The university is the putative home of the free spirit of man. Scholarship at its best is supposed to be the product of our ablest minds, facilitated and stimulated by the challenge possible only within the university community. Is this no more than an ancient fantasy? Has the university community its own inhibitions of the free mind? Are the individuals within even the most ideal higher educational environment inhibited by their own habit patterns? If these questions have to be answered in

the affirmative, is the conception of the free mind no more than an illusion?

We are compelled to admit that this may be the case, but to evaluate the possibility, let us go further and assume that it is the case. Several fundamental points may be taken as established. There is no immediate possibility that we will abandon the solving of our problems by developing organizational rules which will then become habitual and thus, in effect, authoritative. Life is going to be run routinely by organizations and "organization" men. Thus, it will continue to be empirical fact that the thought processes of the individual will take place within his own and society's previously established patterns. Individual freedom has necessarily to be defined within these limits. Once we understand this, our task is to find conditions within which the possibility of individual freedom may be created. The search is spurred by the realization that inability to adapt to changing conditions, which the destruction of individual freedom would bring about, is the biological prescription for annihilation.

Awareness of the limits to individual freedom does not remove those limits, but it does permit the problem of personal freedom to be defined. Thus it opens the path to a new organization of environmental conditions in which there may be a real possibility for individual freedom to thrive. Certainly, by logic and tradition, the college and university environment comes nearer to providing such conditions than any other in contemporary societies.

However, positive steps are required. The problem is essentially a new one because we now see it in a new light. No easy solutions are evident, and experimentation will undoubtedly be called for. In a fundamental sense, nevertheless, it appears that individual scholars who are considered by themselves and others to be essentially free in the permissive environments of contemporary higher educational institutions will have to be aware of the restrictive tendencies of their own habits and inventive of personal measures to counteract those tendencies. In addition, administrators and others who occupy strategic positions in the necessary organization of academic activities will have to assume a double task. They will have to overcome the limiting effects of their own personal habits, and they will have to be on guard simultaneously to see that the inescapably authoritative effects of administrative decisions never become more than the necessary co-ordination of efforts toward the ever evolving goals of teaching and research. These dicta appear to be, and are, general and indefinite. They need not be useless. Often, a large element in the solution of a problem is the ability to recognize and define it. This may be true in the present instance, even if the solution is no more than conscious organization of effort to minimize the effects of unconsciously held individual and social habit patterns. If we can see the problem, there is at least something to do about it.

R.D.P.

Letters to the Editors

College and University: Their Attitude to Students

The article by Drasgow, "College How-to-Do-It Courses," in the March, 1960, issue of the JOURNAL raises issues which are of interest in a much wider context than the American scene. It is perhaps unfortunate that the approach in that article was limited and that the arguments relied more on sarcasm than on objective evidence.

Drasgow, in commenting upon the reported research on how-to-do-it courses, states that "the people who do the research and report favorably on the results are the very same individuals whose bread these courses butter." While that may or may not be true, the fact remains that the presentation of the traditional academic curriculum has been called into question in many countries and by a large and varied body of investigators.

In commenting upon the statement that in Australia only 58 per cent of the 1951 student intake had graduated or were expected to graduate, the Murray Commission on the Australian Universities stated in a report issued in 1957 that "such a high failure rate is a national extravagance that can ill be afforded." Subsequent research sponsored by the universities on an official level, in all the Australian states and in New Zealand, has confirmed the general picture on the failure rate, namely, in an approximate statement, that about one-third of all students graduate in the minimum time and another one-third graduate eventually. Although this may seem of rather remote interest and relevance to the American situation, the figures are somewhat similar to those quoted by McNeely for the U.S.A. in 1938; he quoted a mean graduation rate of 38 per cent rising eventually to about 55 per cent. Also, the Australian university scene has further similarities to that of America since a far higher proportion of the population proceeds to the tertiary stage than, say, in Great Britain.

After criticizing the quality of the research on these courses and the design of the experiments, Drasgow goes on to consider the consequence of such courses, even assuming the research results to be valid. He states that "if we continue to cater to the less able, we shall be guilty not only of misplaced pedagogic emphasis but also of aggravating the problem of overpopulation in the colleges and universities." This is not a convincing argument; in Australia, as in pre-war America, almost one-third of student entrants are delayed in their courses by failure. This delay helps to swell the university population, and any valid method of decreasing failure will at the same time decrease the pressure of overpopulation. However, in this regard we must also face the fact that our universities are not producing enough graduates in most major fields, and that, if necessary, we may have to increase the student numbers to supply our countries' needs.

Perhaps the fundamental point in this argument is the proposition "that if a college admits the less able student. it assumes the responsibility of helping him." Drasgow argues strongly against this proposition on the grounds that the result is to help the less able students at the expense of those more able. The essential weakness in the argument is the statement of the original proposition. The college or university does not admit rigidly defined categories of less able and more able students; rather it admits a group who have varying scores on the entrance criteria, whatever these may be. These scores cannot be regarded as an index of "ability" if by ability is meant the power to achieve success at the tertiary level. Investigations such as those reported by Sanders in Australia in *Student Selection and Academic Success in Australian Universities*, and Crawford and Burnham in the United States in *Forecasting College Achievement*, have indicated uniformly low correlations between entrance measures and tertiary success. Qualitatively, it may be said that these

low correlations indicate that a number with low entrance qualifications achieve university success and vice versa; this applies whether the entrance measure is in terms of intelligence quotient, objective-achievement tests, traditional examinations, or success at the secondary level.

Such statements as the following by Drasgow indicate either a failure to appreciate the evidence or else a selection technique far in advance of anything ever reported:

> For several years I have taken note of the intelligence quotients and related test scores of hundreds of students in remedial courses, and I have not yet seen a case that proves their claims [that is, a case of high intelligence quotient]. . . . If the high-school grades are examined . . . it is usually quite obvious that [students in remedial courses] did not do well even at the high-school level.

A careful statistical analysis of overall evidence, as well as detailed individual case studies, indicates that failure does in fact occur among students whose preparation as indicated by secondary success, and whose intelligence as measured by objective tests, are equivalent to, or better than, those of other students who succeeded. The cause and remedy for such failure must then be sought in other directions.

None of this need invalidate Drasgow's criticism of how-to-do-it courses. What it does imply, however, is a realization that the universities and colleges have in fact an obligation to those whom they admit. The attitude of these bodies is of basic importance here. The proposition is not, as Drasgow claims, that *F* students should be converted to *D* students, *D* students to *C*, and so on up to *A*; rather it is that the university and the college accept the task of developing to the maximum all the intellectual talents and abilities of which they are the guardians. If this is accepted by these bodies as a correct attitude, then offerings which are "appropriate to higher education" and which do "belong in college and university curriculums" can be presented with a diversity of approach and with such necessary aids as to obtain the maximum effect in a diversity of personalities.

P. W. Hughes
University of Tasmania

Teaching and Publication

I should like to add a comment to the discussion on research and teaching which has appeared in recent issues of the Journal of Higher Education.

Although publication should be only a secondary aim of research, it is the sign by which we normally decide when research has taken place and been successful. The aim of publication itself should be communication of ideas. If what is commonly said about much scholarly publication is true, however, little communication occurs, except possibly between the scholar and the editor or publisher. Because publication is the easiest measure of research, and research is what gives universities prestige in the academic world, publication is expected even from the men universities employ as teachers.

This line of argument has been made familiar by Caplow and McGee in *The Academic Marketplace*. What I wish to suggest is that we might do well to consider the research and publication aspects of teaching. Any good teacher does "research" in preparation for his classes—he reads, thinks, organizes facts, relates ideas, examines evidence, compares data, and, in some fields, does experiments and draws conclusions. To be sure, the results may not always be "original," but they are the products of intelligence and scholarship, and probably are as original as much that gets published.

As for publication, is its essential feature communication or the mere appearance of one's words in a journal or book? If the former, then teachers also "publish," not, to be sure, for as select an audience, but certainly for a larger and possibly more receptive one.

Let us play with statistics. A not too overworked teacher might have

one hundred students whom he met three fifty-minute hours a week, for fifteen weeks a term, two terms a year. This means that his ideas would be exposed to minds for 7,500 mind-hours a year, or 37,500 mind-hours in five years. Compare this with the exposure of the ideas of an average (not outstanding) academic scholar who publishes one journal article a year and one book in five years. Will 1,000 persons spend an hour each on every article? Let us be generous and double this for a total of 10,000 mind-hours of exposure in five years. The book will have an appeal to, say, five hundred specialists, who will spend ten hours each on it—making 15,000 mind-hours in all, still not half the exposure of our classroom teacher. Of course, the articles and books will be consulted from time to time over the years—another 5,000 hours perhaps. And then, an hour of reading is equivalent to three of listening and so . . . . But enough of statistics! The point is clear: If figures are what count in the evaluation of publication, then the publication record of the classroom teacher does not look so bad in comparison with that of the research scholar.

Yet all of this is, or should be, beside the point. Teaching is a vital and worth-while function in its own right. It requires skills and aptitudes some of which are different from, but no less demanding and important than, those of the research scholar. What is urgently needed is acceptance of this fact and a search for methods by which good teaching can be evalu ated and recognized in our academic system.

NORMAN D. KURLAND
Inter-university Committee on the Superior Student

The Reporter

THE Midwest Program on Airborne Television Instruction, an experimental project based at Purdue University, will provide a demonstration period, February through May, 1961, which will enable schools to examine its educational content and the quality of its signal reception before participating in the first full academic year, which will begin next September. According to a survey, more than half-a-million pupils will watch the demonstration programs. The courses to be presented on the elementary level are science, arithmetic, French, art, and music; on the secondary level, biology, history, and civics; and on the college level, mathematics and chemistry. It will be possible to watch the video-tape programs in Indiana and parts of Illinois, Kentucky, Michigan, Ohio, and Wisconsin. The lessons, the first ever telecast from a plane, are to begin in April; the test pattern, in February.

A PROGRAM which will eliminate two full years of the traditional eight-year education of a physician will begin next September at Boston University. The School of Medicine and the College of Liberal Arts began planning the unified curriculum four years ago under a Rockefeller Foundation grant. Only exceptionally gifted students can qualify for entrance into the program. Since the student will attend school eleven months each year and duplicate courses have been eliminated, the plan will save him time and thus decrease the cost of his education. His first two years will be spent primarily in studies in the arts and sciences. If at the end of this time he does not wish to continue with medical education, he may change to a regular four-year liberal-arts course. If the student completes the two-year general program successfully, he may enter medical school. His liberal education will be continued during the four remaining summers. Students who complete the program will receive two degrees, Bachelor of Arts and Doctor of Medicine. The Commonwealth Fund of New York will help underwrite the costs to the university of the first four years of the program.

THE needs of gifted students in American colleges and universities have received increasing attention in recent years, according to the October, 1960, issue of *The Superior Student*, newsletter of the Inter-university Committee on the Superior Student. In 1957, there were very few active honors programs. Today, 171 institutions (87 public, 84 private) have them in all or some of the four undergraduate years. Over 40 other institutions are actively exploring such programs.

THE University of Michigan will hold an Institute on College and University Administration June 26–30, 1961. The program will focus upon principles and methods of organization and administration, including discussion of the decision-making process, human

relations, and basic skills in administration. The staff will include the faculty of the Center for the Study of Higher Education and other resource persons. The Institute, in its seventh year of operation, is intended for presidents, deans, business officers, and so on; the membership is limited to sixty persons. Information may be secured from the director, Algo D. Henderson.

ACCORDING to a report prepared at the University of Cincinnati on the basis of autumn-enrollment figures, enrollment of full-time students in American accredited universities and four-year colleges has increased for the eighth consecutive year. A grand total of 2,942,541 full- and part-time students was reported by 1,016 accredited universities and four-year colleges; of this number, 2,039,854 were full-time students. In 933 institutions which reported both this year and last, there were increases of 6.2 per cent in full-time student enrollment and 5.5 per cent in grand totals. This was the forty-first annual enrollment survey to be reported in *School and Society*.

IN ORDER to develop the talent of the best students in Rhode Island high schools, Providence College conducts an enrichment program in mathematics and advanced English composition. The courses presuppose prior high-school instruction in the subject studied, each course is taught on the college level, and a considerable amount of outside reading and writing is demanded of the student, who is allowed to take only one of the two courses offered. No college credit is given, but a report is made at the end of the semester to the principal. Providence College suggests that a description of the course be placed on the student's academic record so that his progress in the program may be taken into account when he enters college. The participants, all high-school Seniors, are chosen by principals and guidance personnel. Classes are conducted on Saturday mornings by members of the college faculty. There is no tuition charge.

THE Institute of European Studies has announced a new honors program in contemporary European civilization. Students who participate in the program will live with Parisian families and attend the University of Paris, where lecture courses will be conducted in French; they will also participate in seminars conducted in English. Two field-study trips through Europe, during vacation periods at the University, will supplement classes and seminars. College Sophomores and Juniors with at least a *B* average and some knowledge of French are eligible. Classes will begin in the fall of 1961.

THE Institute of International Education has announced the formation of a new National Advisory Committee on Africa. Members of the Committee are well known for their special experience or study in relation to Africa. The U. S. Department of State has endorsed the Committee's formation, and government representatives concerned with policy-making will be invited to its meetings. Among the trends and needs to be studied are the increased number of African students in the United States, the recruitment of American teachers for African secondary schools, youth-service programs in Africa, and improvement of co-operation between the United States government and private agencies and institutions concerned with Africa.

EDITOR'S NOTE: Readers are invited to submit items not exceeding two hundred words in length for "The Reporter." Those which are of general interest will be published with a caption and signature. They should deal with significant ideas, events, or experiences.

Reviews

EDUCATION IN THE PERSPECTIVE OF HISTORY, *by Edward D. Myers.* New York: Harper and Brothers, 1960. xii+388 pp. $6.00.

A fuller title for this book would be "Education in Arnold Toynbee's Perspective of History." Mr. Myers begins with a chapter on "The Toynbee Background" which is one of the best available brief expositions of Toynbee's ideas—his philosophy of history in a package even smaller than the familiar two-volume condensation by D. C. Somervell. Then, using the Toynbeean framework, he goes on to describe the process of education in the broadest sense, that denoted by the Greek *paideia*, for as many of Toynbee's nineteen "civilizations," plus one of his "abortive" and two of his "arrested" civilizations, as we have sufficient—indeed any—information about. He cannot, for instance, find nearly enough such information about Toynbee's Mayan civilization, or his Minoan, or, indeed, any of the "primary" civilizations, to subject them to analysis. He does assemble, in an Appendix, something on five of the primary civilizations: Andean, Egyptiac, Sumeric, the Indus culture, and the Shang culture. On the other hand, for three of the "secondary" civilizations, Sinic, Indic, and Hellenic, there are well-nourished chapters; and the more numerous "tertiary" or modern civilizations, on which there is more abundant material, get adequate treatment. A final chapter by Mr. Myers makes suggestive comparisons and draws tentative conclusions. Mr. Toynbee himself writes a last chapter, essentially in a hortatory vein.

It would be misleading to say that this book can be read, and learned from, quite apart from its dependence on Toynbee's system. Nonetheless, those who are inclined to look skeptically on the grand and risky generalizations of *A Study of History*—and such skeptics are numerous in the world of higher education in this country—ought not to give Mr. Myers' book an offhand dismissal. The formal history of education has surely in the last few centuries been at least as much confined to the classical lands of ancient, medieval, and modern history, the West along the axis of Athens-Rome-Paris-London, and overseas Europe, as political or any other conventional form of history has been; and it has been at least as timid about making generalizations as other forms of history have been. Mr. Myers has boldly tackled a subject that is going to have to be tackled by many more of us in the future. His treatment sets up scores of problems worth investigation. To use a fine old cliché, it opens windows on new worlds.

CRANE BRINTON
Harvard University

SCIENCE AND LIBERAL EDUCATION, *by Bentley Glass.* Baton Rouge, Louisiana: Louisiana State University Press, 1960. x+115 pp. $3.00.

This book comprises three essays which the author presented as the 1958 Davis Washington Mitchell Lectures at Tulane University. The first is

an extension of an earlier paper on genetics in the service of man. The second, "Liberal Education in a Scientific Age," best justifies the book title. The final essay is a review and clarification of a century of influence of Darwinism upon Western religious and philosophical views.

For a decade and more the physicist has been held in awe as the being charged with the damnation or salvation of our species. The first essay in this book easily establishes the biologist's equal rank as manipulator of human threat and promise. The awesome potentialities of modern genetics and experimental evolution are set forth, the benefits being weighed against the risks. Specific quandaries are illuminated but not resolved beyond the counsel to seek wisdom.

The second essay is a strong and impatient assertion of the controlling role of science in modern life and of the inadequacy of the place currently assigned to it in education. Inertial factors have always ensured the lag of the processes of formal education behind evolving human knowledge and cultural development. The rise of science has been much too rapid for the inflexibilities of education. Glass does not ask merely that schools spend more time with the facts and things of science; with him, the amount of science taught is less important than the way it is taught and the qualifications of its teachers. He sees science as the greatest liberating and liberalizing force in human thought, and hence inescapably the core of a truly liberal education. This is not a new idea among thoughtful scientists, and many of them will read the essay with approbation. Anti-scientists and educational neutralists should read it to learn what is in the wind and to realize the deep involvement of the arts, humanities, and social studies in matters scientific.

In the final essay, the author brings us sound scientific history, touched with his original realizations, and relieved by speculations which some readers will find reasonable and others only entertaining. He ventures farthest from his laboratory in the discussion of Darwinism and ethics, but even here the points are supported by genetic instances. The ferment which Darwin planted in biology was minor compared to that raised among ethical and religious philosophers, groups containing thinkers who not only entertain hypotheses but are sometimes entertained by them. An ethical relativist, Glass would not consider the ethics we have an evolutionary product, but rather a cultural growth subject to limitation by the evolutionary process and properly varying in its interpretations of good and evil in accordance with circumstances and states of knowledge. Predation is defended on evolutionary grounds, but not nuclear war. Some mighty nouns, once refractory but now smoother, are weighed in the light of current scientific insights, but the allusions terminate in modest interrogation points. These the reader may convert into full stops in accordance with his predilections and his courage.

PAUL KIRKPATRICK
Wesleyan University

THE NATURE OF BEING HUMAN, *edited by Marie I. Rasey*. Detroit: Wayne State University Press, 1959. viii+115 pp. $3.95.

Five scholars who took part in the Franklin Memorial Lectures in Human Relations at Wayne State University in 1957 present their points of view concerning various aspects of the problem of education. Two specialists in education, one in biology, one in anthropology, and one in

psychiatry direct their observations in the separate chapters of the book to pertinent concepts in these fields as they relate to the process of education.

Edmund Sinnott presents a brilliant discussion of certain biological principles bearing on the educability of the organism and their implications as he sees them, pointing out that

> motivation, one of the capital-letter words of modern psychology, is the basic problem in teaching. What the sources of motivation are and how they may be so controlled that our students learn to want what is good for them to have must be our great concern (page 8).

Taking a somewhat different view from that of the exponents of modern psychological theory of motivation, Mr. Sinnott proposes that we do something because we want to do it rather than because we are driven to do it. Proceeding from this assumption, he considers various means of arousing the student's interest in and hunger for knowledge.

William Brown, educational-research specialist, contributes a chapter on "Human Potentials for Questing," in which he proposes that they consist essentially of three basic tools: (1) curiosity or creative imagination, (2) the power of conceptualizing, and (3) education. These are the tools that may be used to work on the problems of human interaction and to gain control of our social destiny. Again the problem of motivation is encountered as it is pointed out that "human interaction is triggered and powered by mainsprings composed of highly personal qualities, and man must understand these mainsprings if he is to realize his maximum questing potential" (page 37).

Ralph Rabinovitch, psychiatrist, discusses "the hazards of being human" and examines certain common analytic concepts of early personality dynamics. An excellent description and summary of the phases of personality development in the child indicate the possible dangers to normal personality development. "Human nature itself, then, does not, in our view, constitute a hazard to the growing child. The hazards are deprivations or distortions of opportunities and experiences that interfere with the unfolding of positive personality potentials" (page 51). But there is little hint of pessimism in these perspicacious observations, and one is encouraged to look with more and more hope to science and education.

Ashley Montagu, anthropologist and writer, discusses the evolutionary background of "the young of human kind." Montagu stresses the importance of the symbiotic relationship of the mother and child, and of love as essential to the development of the child's finest potentialities. "To grow and develop as a total organism the young of human kind requires first, foremost, and beyond all other things, the stimulus of love" (page 89). Concerning education and the nature of being human, Montagu writes,

> It is scientists who are uncovering the necessary knowledge and establishing the verifiable truths about the nature of being human, but it is up to all of us, whatever our station in life, to learn what the behavioral scientists are discovering and to do something about applying those discoveries (pages 91, 92).

In the final chapter, the late Marie Rasey, educator, considers the demands of education both for today and for the future: changes in our modern world indicate that there will be necessary changes in our education and methods of teaching; but whatever the nature of these changes, there will always be a need for the teacher as a person. The teacher and his task are of vital importance.

Throughout the book, the problem

of motivation of human behavior looms paramount in importance, and the need for careful scientific study of it is made apparent. Although not all is told about the nature of being human, much of the writing is provocative, stimulating, and informative.

KENNETH S. WAGONER
DePauw University

T. H. HUXLEY: SCIENTIST, HUMANIST, AND EDUCATOR, *by Cyril Bibby*. New York: Horizon Press, Inc., 1960. xxii+330 pp. $5.00.

Twenty-five years ago this reviewer had the opportunity to study the collected *Scientific Memoirs, Letters, and Essays* of Thomas Henry Huxley, together with the extensive literature devoted to his life and accomplishments. The conclusion of this study was that Huxley's greatest and most enduring significance must rest upon his work as an educator. The present book is additional documentation of the same conclusion: ". . . It is as an educator that T. H. Huxley has the greatest significance" (page 21).

The author reaches this conclusion after a study not only of the published sources but also of unpublished letters and papers, particularly those in the muniments of the Imperial College of Science and Technology. However, these unpublished materials appear to throw no new light on Huxley as an educator. As used by the author, they serve mainly to debunk the image which his son endeavored to portray in the *Life and Letters*. For example, some unpublished letters are used to trace a strain of insanity in the Huxley family to support Beatrice Webb's psychoanalytic observation of 1926: "There is a strain of madness in him." We are immediately assured by our sympathetic author: "But, if so, it was that thin strain to which great wits are near allied and from which Aristotle tells us no great soul is quite exempt" (page 5). Another example of the use of the unpublished papers to debunk the image of Huxley as an objective scientist is a parade of those treating Huxley's early prejudices. Again, however, the author assures us that he overcame these.

On the whole, the book is an accurate and sympathetic portrayal of Huxley's work as a scientific humanist and educator. That such a book is timely is illustrated by the comment of the eminent biologist Sir Julian Huxley in his Foreword that he had gained a new insight into his grandfather's character and work.

After disposing of Huxley's versatility, morality, metaphysics, and skill as a controversialist in his first four chapters, the author devotes the last two-thirds of the book to a review and evaluation of nine aspects of Huxley's work as an educator. He elucidates Huxley's efforts to popularize science, to build a school of science, to advance technical and professional education, to get the London School Board off to a good start, to improve schools of the upper classes, and to reorient the University of London, the older universities of England and Scotland, and the newer universities of America. And through it all stalks the vibrant Huxley, who just one hundred years after beginning his *Meisterjahre* is still the master of those seeking to advance education in the sciences.

The book is well documented with thirty-four pages of references, largely primary sources. However, a review of these references recalls Peter Guthrie Tait's remark of 1877 about "the old absurd British contempt for all things foreign . . . ." The list includes very few American or German scholars, some of whom acclaimed Huxley as their hero long before Bibby discovered him. In a letter

dated May 24, 1943, to Sir Julian Huxley, the reviewer took note of Huxley's place in scientific education: "The modern world can gain perspective by restudying the views of a great thinker like your grandfather." Thanks to Bibby, this has now been done in a scholarly, yet readable, appraisal.

JAMES D. TELLER
Department of the Air Force

IF THE GOWN FITS, *by A. F. Rowe.* New York: Cambridge University Press, 1960. xiii+227 pp. $6.00.

This very personal story of the author's ten years' service as vice-chancellor of Adelaide University in South Australia is full of interest. At one level, the account reveals facets of problems perhaps found in universities everywhere; at another level, it throws light on some aspects of Australian society; and finally, it is a case study in the qualities of leadership and the conditions which contribute to success or failure in the exercise of this difficult task. For this autobiography is an account of a failure made more poignant by the brilliance of Mr. Rowe's earlier career as leader of a very talented group of scientific research workers at the British Telecommunications Research Establishment and because the objectives against which he measures his own lack of success are so high. He was convinced, for example, that "virile universities are as important in peace as radar is in war" (page 195), and he set out with considerable zeal to put new life into Adelaide University, although he admits that this contribution was not really expected of him. He failed, in his own view, because he never solved "the problem of creating a stable group of wise and fearless men with whom I could talk freely and from whom a policy could be disseminated throughout the university" (page 187). Consequently, although much was done to improve salaries, student-faculty ratios, and facilities in general, the defects he regarded as most serious when he arrived remained when he left.

The vice-chancellor, as the chief executive officer of the university, had little real power. The professor-god myth, according to which all professors had an equal and powerful say in the determination of policy, persisted. Associated departmentalism continued to make planning difficult. Adelaide had not been placed firmly on the research map among the world universities. Presumably, in this largely non-residential university, staff and students were still "going home to tea" and staying there until lectures began again next morning. (This habit might, of course, characterize not only the university but Adelaide itself, with its not too distant beach.) Academic privileges continued to be enjoyed in the name of academic freedom. Yet at the same time, local politics and parochialism, the devotion of Australians to egalitarianism, and the limited powers of the central government in education continued to make real progress therein difficult.

So the local scene is set. It reveals the interplay of finance and politics with university affairs and, more significantly, the politics of university life. Can the criticisms and analysis made by Mr. Rowe of the situation in Australia, and particularly at Adelaide University, be applied, as he maintains, "far beyond the shores of Australia"? It may be that the gown indeed fits more institutions throughout the world than is good for university life. Any reader of this book who is within a university is surely likely to see aspects of his own environment reflected in it. Probably more of the features of university life de-

scribed will be found in Britain than in the U. S. A., of whose universities Mr. Rowe has many favorable things to say. On the other hand, it would be unwise to jump to hasty conclusions. There seems to be no ground for supposing that all university problems can be solved by giving considerable power to a president and stimulating research among faculty members by increasing competition. There are, in short, dangers associated with the use of financial rewards, promotion, and security-of-tenure contracts as incentives to academic endeavor. Nor should it be supposed that Mr. Rowe's prototype "brand-new university"—which does after all resemble the American pattern—would suit all national conditions.

Let it be said immediately that your reviewer agrees with many of Mr. Rowe's proposals about the reorganization of universities, the content of courses, methods of teaching, research, residential facilities, and so on. But the early comparative educators realized that institutions could not be created *de novo*, nor could they be easily transplanted from one country to another. Institutions had to grow out of the traditions of a country, reflecting the genius and limitations of the people within that country. The reform of educational institutions is at best a slow and difficult business.

Perhaps Mr. Rowe's failure to recognize these intrinsic difficulties of reforming social institutions accounts for the partial failure of his mission. For it is as a man with a mission that the author reveals himself, yet as one who was not willing to make the concessions which might be necessary for victory. "The Premier and I did not speak the same language, and the language of politics was not one which I was prepared to learn" (page 193). Nor was he prepared to learn the language of university politics, and he continues to hope that the young men of promise now being drawn to Australia "will eschew university politics and not fall under the spell of older and less able men for whom egalitarianism is more important than excellence" (page 45). Finally, Mr. Rowe was never able to reconcile himself to the loneliness which might be a necessary adjunct to the exercise of power and the achievement of ideals.

In a search within the internal evidence of the book for some explanation of this failure, one feature stands out. Mr. Rowe's earlier success had been among scientists. He recognizes that the war had something to do with the fact that he and his colleagues could argue with each other and criticize each other, and yet remain friends. There is no evidence in this book that he appreciated that differences of opinion in science can be more easily put to the test of controlled experiment than can differences of opinion in any other field of endeavor. Perhaps it is the data of science rather than the human characteristics of scientists which make for scientific objectivity. Scientists who fail to realize this fact are unlikely to make good politicians. To exercise power effectively, the science and language of politics should be learned. And the moral of this essentially human and readable book is that good ideas and a sense of purpose are not enough by themselves to achieve radical reforms. Not everyone who reads this book will wish to become a university politician, not everyone who reads it will wish to carry forward the fight for university reform, but every reader will find much to stimulate his thinking about the role and problems of universities today.

BRIAN HOLMES
University of London

Books Received

CARTWRIGHT, DORWIN, AND ZANDER, ALVIN, editors. *Group Dynamics: Research and Theory*. 2nd ed. Evanston, Illinois: Row, Peterson and Company, 1960. xii+826 pp. $7.25.

CHASE, MARY ELLEN. *A Goodly Fellowship*. New York: Macmillan Company, 1960. xiv+305 pp. $1.25.

CLEVELAND, HARLAN; MANGONE, GERALD J.; AND ADAMS, JOHN CLARKE. *The Overseas Americans*. New York: McGraw-Hill Book Company, Inc., 1960. xviii+316 pp. $5.95.

COOK, LLOYD ALLEN, AND COOK, ELAINE FORSYTH. *A Sociological Approach to Education*. 3rd ed. New York: McGraw-Hill Book Company, Inc., 1960. ix+371 pp. $6.75.

DAHL, ROBERT A.; HAIRE, MASON; AND LAZARSFELD, PAUL F. *Social Science Research on Business: Product and Potential*. New York: Columbia University Press, 1960. viii+185 pp. $3.00.

DALZELL, ROBERT F., JR. *American Participation in the Great Exhibition of 1851*. Amherst, Massachusetts: Amherst College Press, 1960. 64 pp. (Amherst College Honors Thesis, No. 1).

DAVIDS, JULES. *America and the World of Our Time*. New York: Random House, 1960. ix+597 pp. $7.50.

DE HUSZAR, GEORGE B., editor. *The Intellectuals: A Controversial Portrait*. Glencoe, Illinois: Free Press of Glencoe, Illinois, 1960. viii+543 pp. $7.50.

DUDLEY, LOUISE, AND FARICY, AUSTIN. *The Humanities: Applied Aesthetics*. 3rd ed. New York: McGraw-Hill Book Company, Inc., 1960. xx+466 pp. $6.95.

DUTT, K. GURU. *Existentialism and Indian Thought*. New York: Philosophical Library, Inc., 1960. iv+92 pp. $2.75.

FLEXNER, ABRAHAM. *Abraham Flexner: An Autobiography*. New York: Simon and Shuster, Inc., 1960. xvi+302 pp. $5.00.

GALDOS, BENITO PEREZ. *Dona Perfecta*. Translated by Harriet De Onis. New York: Barron's Educational Series, Inc., 1960. xvi+235 pp. $.95.

GREENWOOD, DAVID. *The Nature of Science*. New York: Philosophical Library, Inc., 1960. xiv+95 pp. $3.75.

GUETTI, JAMES L., JR. *The Rhetoric of Joseph Conrad*. Amherst, Massachusetts: Amherst College Press, 1960. 47 pp. (Amherst College Honors Thesis, No. 2).

HANSON, KENNETH H. *Philosophy for American Education*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1960. ix+310 pp. $5.00.

HARRIS, ROBIN S., AND TREMBLAY, ARTHUR. *A Bibliography of Higher Education in Canada*. Toronto: University of Toronto Press, 1960. xxv+158 pp. $6.50.

HOCK, ALFRED. *Reason and Genius: A Study in Origins*. New York: Philosophical Library, Inc., 1960. vi+138 pp. $3.75.

HOCK, LOUISE E., AND HILL, THOMAS J. *The General Education Class in the Secondary School*. New York: Rinehart and Company, Inc., 1960. xviii+232 pp. $4.00.

HUGHES, JAMES MONROE. *Education in America*. Evanston, Illinois: Row, Peterson and Company, 1960. xiv+496 pp. $6.00.

INTERNATIONAL COMMITTEE FOR SOCIAL SCIENCES DOCUMENTATION (in co-operation with the International Sociological Association). *International Bibliography of Sociology*, Vol. III. Paris: UNESCO, 1960. vi+319 pp. $6.00.

JACOBSON, HAROLD KARAN. *America's Foreign Policy*. New York: Random House, 1960. xi+756 pp. $6.50.

LEARY, JOHN P. *Introduction to Education*. New York: Pageant Press, Inc., 1960. 176 pp. $3.00.

LEGGETT, GLENN; MEAD, C. DAVID; AND CHARVAT, WILLIAM. *Handbook for Writers*. 3rd ed. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1960. xx+534 pp. $4.50.

LEWIS, ADELE, editor. *The Print*. New York: Adele Lewis, 1959. 32 pp. $2.00.

MACOMBER, GLENN F., AND SIEGEL, LAURENCE. *Final Report of the Experimental Study in Instructional Procedures*. Oxford, Ohio: Miami University, 1960. 96 pp.

McCLELLAND, CHARLES A., editor. *The United Nations: The Continuing Debate.* San Francisco: Howard Chandler, 1960. xiii+198 pp. (Chandler Studies in International and Intercultural Relations). $1.50.

McNALLY, HAROLD J., *et. al. Improving the Quality of Public School Programs.* New York: Teachers College, Columbia University, 1960. xx+331 pp. $4.95.

MORSE, HORACE T., AND DRESSEL, PAUL L. *General Education for Personal Maturity.* Dubuque, Iowa: William C. Brown Company, 1960. x+244 pp. $4.50.

NATIONAL UNIVERSITY EXTENSION ASSOCIATION, DIVISION OF CORRESPONDENCE STUDY. *Guide to Correspondence Study.* Minneapolis: The Association, 1960. 35 pp. $.25.

NEVINS, ALLAN, *et al. Energy and Man: A Symposium.* New York: Appleton-Century-Crofts, Inc., 1960. xiii+113 pp. $3.75.

OHIO STATE UNIVERSITY AIR FORCE ROTC CIVILIAN INSTRUCTOR PROGRAM. *The Uniform on Campus.* Columbus, Ohio: Ohio State University, 1960. 42 pp.

ORYNSKI, WANDA, editor. *Hegel Highlights: An Annotated Selection.* New York: Philosophical Library, Inc., 1960. xxi+361 pp. $4.75.

PENTONY, DeVERE E., editor. *The Underdeveloped Lands: A Dilemma of the International Economy.* San Francisco: Howard Chandler, 1960. xii+196 pp. (Chandler Studies in International and Intercultural Relations). $1.50.

PENTONY, DeVERE E., editor. *United States Foreign Aid: Readings in the Problem Area of Wealth.* San Francisco: Howard Chandler, 1960. xii+148 pp. (Chandler Studies in International and Intercultural Relations). $1.25.

ROBERTS, E. E. *Operation I. Q.: How to Get into College and—Stay There.* Buffalo: Henry Stewart, Inc., 1960. viii+127 pp. $2.00.

ROSS, RALPH; BERRYMAN, JOHN; AND TATE, ALLEN. *The Arts of Reading.* New York: Thomas Y. Crowell Company, 1960. xvi+488 pp. $5.25.

SCARFE, N. V. *Conflicting Ideas in Teacher Education.* Columbus, Ohio: College of Education, Ohio State University, 1960. viii+40 pp. (Boyd H. Bode Memorial Lecture). $1.00.

SEELY, CHARLES S. *Modern Materialism.* New York: Philosophical Library, Inc., 1960. x+82 pp. $2.50.

SEIDMAN, JEROME, editor. *The Adolescent: A Book of Readings.* Rev. ed. New York: Holt, Rinehart and Winston, Inc., 1960. x+870 pp. $6.50.

SMITH, G. KERRY, editor. *Current Issues in Higher Education.* Washington, D.C.: National Education Association, 1960. x+286 pp. $5.00.

SMITH, MORTIMER. *A Citizens Manual for Public Schools.* Washington, D.C.: Council for Basic Education, 1959. x+95 pp. $1.00.

STILES, LINDLEY J., *et al.*, editors. *Teacher Education in the United States.* New York: Ronald Press Company, 1960. viii+512 pp. $6.75.

THOMAS, MURRAY R., AND SWARTOUT, SHERWIN G. *Integrated Teaching Materials.* New York: Longmans, Green and Company, Inc., 1960. xiv+545 pp. $6.75.

AAUP Bulletin

- the quarterly journal of the academic profession
- articles, reports, and reviews of significance to all educators
- annual subscription $3.50
- To subscribe, or receive information on membership, write

THE AMERICAN ASSOCIATION of UNIVERSITY PROFESSORS

1785 Massachusetts Avenue, N.W. Washington 6 D.C.